

PRE-CHRISTIAN CULT SITES, VOL. 2

STRØBY TOFTEGÅRD

HALLS, HIERARCHIES AND SOCIAL DYNAMICS IN
LATE IRON AGE AND VIKING AGE DENMARK



EDITED BY ANNA SEVERINE BECK,
MAJA KILDETOFT SCHULTZ
AND JENS ULRIKSEN

STRØBY TOFTEGÅRD



Archaeologist Svend Åge Tornbjerg (1950–2024), who initiated and lead the excavations at Strøby Toftegård, presents the foot of a glass claw-beaker just retrieved from the soil. Photo: Museum Southeast Denmark.

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In Memory of
Svend Åge Tornbjerg

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Catalogues mentioned in the text can be accessed online at: <https://natmus.dk/cultsites/>

Preface

More than 10 years have gone by since the last excavation at Strøby Toftegård at the time when this publication comes out. Prior to that, 10 excavation campaigns were conducted over the course of almost 20 years. The first excavations were initiated by Køge Museum (as of 2013 this has become part of Museum Southeast Denmark) and were inspired by local investigations of the Iron-Age and Viking-Age landscape. The significance and potential of the locality, however, grew with every excavation campaign, and the last excavations were done as part of the research project 'Pre-Christian Cult Sites' (in Danish: *Før-kristne kultpladser*) in collaboration with Lars Jørgensen, research professor at the National Museum of Denmark. This project facilitated a greater and more comprehensive processing of the archaeological material, as well as the use of a wider range of scientific analyses than had been possible if the locality were to be dealt with only by the local museum. When Lars Jørgensen sadly fell ill and passed away, it fell to Mads Dengsø Jessen to complete the task that had begun. This considerable work has resulted in the fact that the publication on Strøby Toftegård can now be issued as part of the monograph series Pre-Christian Cult Sites, and we are extremely happy about this.

During the long process from excavation to publication, a great many people have contributed to the project in various ways: as volunteers, as students, as colleagues, researchers and interested neighbours.

The excavations initially began on the basis of a thorough piece of work by an amateur archaeologist, and the local amateur archaeologists from the two associations Amatørarkæologer på Stevns (Amateur Archaeologists in Stevns) and Sammenslutningen af Amatørarkæologer i Østsjælland (The Organisation of Amateur Archaeologists in Eastern Zealand) have been an active part of the excavations ever since. Without their efforts, we never would have come this far. A heartfelt thanks to everyone who has moved soil, untiringly sieved square metre by square metre and has been there all the way through. None mentioned, none forgotten.

Additionally, the excavations have benefitted from having played the part of excavation field trip for new students of archaeology at the University of Copenhagen and from occupational projects run by the local council. Both of these have been important in terms of even making the excavations possible. We thus send our resounding thanks to both the University of Copenhagen and the former Roskilde Amt for their collaboration.

The cost of the excavations and subsequent reports have been covered partially by the Køge Museum's own funds, partially by funding obtained from Rigsantikvarens Arkæologiske Sekretariat, Kulturarvsstyrelsen (now Slots- & Kulturstyrelsen), Østsjællands Andelsvaskeris fond and Carlsen-Langes legatstiftelse, for which we are extremely grateful.

Without the generosity and great flexibility of the landowners, Claus Andersen, Torben Agertved and Arne Pedersen, the excavations could never have taken place. We therefore also wish to express our gratitude for their constructive cooperation over the years.

The fact that Strøby Toftegård became part of the project on Pre-Christian Cult Sites has been a decisive factor in producing a now finished publication. A heartfelt thanks to Lars Jørgensen, Josefine Bican and Mads Dengsø Jessen for supporting, helping and providing expert assistance when needed.

In order for the publication to become a reality, it has of course been necessary to involve a whole range of skilled researchers and scholars who have spent time working on the material. This has resulted in 18 significant studies of material from and potentials of the site. Thank you for your collaboration and, not least, your patience regarding the very long process of working on this book.

Thanks also to Karen Bek-Pedersen for professional and pleasant collaborations regarding the translation of all the texts into English. Without her thorough and systematic approach to this task, the final manuscript would not have been as coherent as it now is. Also, a huge thanks to Mads Lou Bendtsen for his help with the graphic work. Without

this important effort, the result would not have been as beautiful and enticing to look at. Finally, thank you to Jens Olsen for willingly and professionally taking care of photographing the items. His eye for showing the antiquities from their best side will hopefully make the items from Strøby Toftegård accessible for future analyses, too.

Likewise, without funds for printing, the book would not have become a reality. We are grateful for the generous support we have received from Aage og Johanne Louis-Hansens Fond, Augustinus Fonden, Farumgaard-Fonden, Lisa og Gudmund Jørgensens Fond and from the National Museum and Museum Southeast Denmark.

We also wish to express our gratitude to colleagues at Museum Southeast Denmark and other museums across the country for their support and active engagement whenever we needed it. This has been valuable and constructive for us. We do hope that the result will prove worth waiting for.

Our deepest and greatest thanks go to Svend Åge Tornbjerg, who sadly passed away on 21 June 2024. He was in charge of the first many excavation campaigns and

generously passed all of his work and results on to us. We have endeavoured to continue his solid and skilled archaeological work and capable interpretations of the material in order to bring them to light.

Despite the long time spent on producing this publication, we hope that readers will refrain from seeing this as the final say on Strøby Toftegård. The more we have investigated and studied the excavated material, the more questions have arisen, many of which are yet to find answers. Although many words are being said in the 18 articles that make up this book, the last word is yet to be said about Strøby Toftegård. We hope that, in the future, many people will have the opportunity to return to look at the site and to the written words with fresh eyes.

With these words, let the story of Strøby Toftegård, the magnate settlement in northern Stevns, begin.

Køge on 26 June 2024
Anna Severine Beck, Maja Kildetoft Schultz and
Jens Ulriksen

Introduction to Strøby Toftegård: History, methods and overview

Anna Severine Beck, Maja Kildetoft Schultz & Svend Åge Tornbjerg (†)

Abstract

This article provides an introduction to the site of Strøby Toftegård. First and foremost, the history of the investigation of this site, as well as the investigation methods, will be presented and this is characterised by many small investigation campaigns during the period 1994 to 2013. Following this, an overview of the history of the site from Neolithic times up until today will be presented. The focus on the Late Iron Age settlement will be presented together with a clarification of the purpose of the book. The purpose is not only to present and discuss the archaeological material recovered from the site, but also to discuss and qualify the interpretation of the Late Iron Age settlement at Strøby Toftegård as a magnate farm. In connection with this, the structure of the book and the ways in which the individual contributions feed into the overall purpose will be unfolded.

Keywords: investigation history, excavation methods, preservation, settlement, finds, interpretation

On a winter's day in 1994, a lucky find was made in a field near the farm of Toftegård a little east of the village of Strøby in northern Stevns. The amateur archaeologist Benny Christiansen was searching the field with his metal detector when suddenly, within a very small area, several pieces of silver turned up, among them trimmed Arabic coins, pieces of arm rings and a silver bar (Fig. 1.1). Køge Museum was immediately contacted and a minor trial investigation was initiated. What nobody knew at the time was that this subtle signal from the metal detector would be the starting point of many years of extensive excavation campaigns – it was, in fact, the beep that led directly to the discovery of the rich Late Iron Age settlement now known as Strøby Toftegård. The purpose of the present publication is to present, analyse and discuss this find.

Investigation history

It was no coincidence that exactly this field was searched with a metal detector. Since the mid-1980s, Køge Museum had carried out systematic reconnaissance expeditions of

field areas located in selected *ejerlavs* (an area owned and managed by the village in the 19th century) within Køge Museum's area of responsibility (comprising Gørslev, Nørre Dalby, Kløvested, Ølby, Solrød, Varpelev and Strøby *ejerlav*) with the purpose of mapping prehistoric settlement patterns and how these relate to the landscape (Tornbjerg 1990; 1991; Christensen & Tornbjerg 2009). Particular attention was paid to fields that were not located in the immediate vicinity of any medieval village, but that carried the element *toft* as part of their names on the original maps from the agricultural reforms of 1797 (e.g. Gammeltoft, Toftehøj, Toftegård, etc.). The hypothesis was that such names could indicate vanished settlements from the Viking Age (Nielsen & Tornbjerg 1987; Nielsen 1990). In close cooperation with a group of volunteers, selected fields were surveyed by field walking. In some places, the field-reconnaissance parties were supplemented by metal-detector searches. Remarkably, at all of these *toft* sites, traces of settlement were observed on the surface of the fields, in the form of pottery, dark soil, burnt stones and finds of various items. The settlements



Fig. 1.1. The first silver finds from Strøby Toftegård – a silver bar, several chopped-off pieces of silver rings and fragments of Arabic silver coins – were found in 1994 by Liselotte and Benny Christensen. Photo: Flemming G. Rasmussen.



Fig. 1.2. The initial investigations of Strøby Toftegård (1994). The topsoil has been manually removed in a 3×3 m area right at the spot where the silver finds had been made. During excavation, the soil was examined using a metal detector as well as sieved. The picture shows volunteer participants of the excavation Liselotte and Benny Christensen as well as Ingo Simonsen. Photo: Museum Southeast Denmark.

that were thus identified could usually be chronologically placed in the Late Iron Age and the Viking Age (Tornbjerg 1991; 1995a).

The reconnaissance expeditions within Strøby *ejerlav* led to searching the field at Toftegård. When the first silver finds turned up, the museum did a minor trial excavation in order to examine what was at the time interpreted as the remains of a ploughed-up silver hoard from the Viking Age (Fig. 1.2). An area of 3×3 m (Trench 0) was established, and the topsoil was removed manually. All the soil was sieved and, at the same time, the soil was subjected to metal-detector searching. This resulted in an increase of the original number of finds by adding pieces of hacksilver, more arrowheads and a few bits of jewellery of gilt bronze and, lastly, also a *guldgubbe* (in English: gold foil figure) – the first of its kind in Zealand. However, no additional traces of a potential silver hoard were located. Instead, several postholes were found in the former surface, under the topsoil. The result was that the notion of an isolated, buried silver hoard had to be revised. In place of that, the



Fig. 1.3. Overview of the many phases of the excavation 1994–2013. Ortophoto: Danish Geodata Agency, Illustration: Museum Southeast Denmark.

trial excavations were encouraging in terms of finding out what the context then was of the silver finds, and further investigations were initiated (Fig. 1.3).

In 1995, the first excavations took place with the purpose of clarifying the nature and possible extent of the archaeological features. Three trial trenches were dug in order to obtain an indication of what was hiding beneath the topsoil. These trenches revealed numerous features, among these a number of postholes and cooking pits much filled with stones and charcoal. The nature and extent of the features indicated that this was a large settlement from the latter part of the Iron Age and the Viking Age (Tornbjerg 1995b, 71). In the area that had yielded the first finds, a large grid of soil-sieving trenches was laid out where the topsoil (from the surface to the subsoil) was dug up in square-metre sections and was sieved with the help of volunteers from, respectively, Valløby, Skovbo, Solrød, Stevns and Køge municipalities. In total, 156 m² of the layer of topsoil was examined in this way in the autumn of 1995. Sieving the topsoil was, moreover, supplemented by metal-detector surveys of the entire field and the neighbouring fields, which also yielded several high-quality metal objects from the Late Iron Age (Tornbjerg 1995a; 1995b).

The 1995 investigations provided the basis for the excavation campaigns in 1996–1998 in which, each year, a new piece of the settlement on the field at Toftegård was uncovered. During the first year, the investigations had their starting point in the south-eastern corner of the field, where the settlement traces were most intensive and the number of finds greatest. Here, five large longhouses were uncovered, many cooking pits with burnt stones, and the area that was later understood to be the central part of the settlement. Additionally, a smaller urn-burial site from the Late Bronze Age emerged. The following year, the part of the settlement just north of here was uncovered. And in 1998, parts of the settlement to the west and north-west of the great longhouses were revealed. Alongside the excavations themselves, square-metre sections of the topsoil continued to be sieved (1996 and 1997), trial trenches were laid out and metal-detector surveys conducted across the entire field, as well as the neighbouring fields. The excavations were summed up in an excavation report in 1998 (Woller 1998).

The result of the first four years of excavation campaigns was the identification of a sizeable and varied settlement from the Late Iron Age (AD 650–1000). Despite the extensive investigations, it became clear that the settlement traces continued into the neighbouring fields to the east, west and



Fig. 1.4. Some of the excavation team of 1998, including archaeology students from the University of Copenhagen. From the left: Grethe S. Andersen, Dorte Katrine Malling, Pernille Foss, Tove Woller, Cille Krause, Sten Lundo, Thomas Bjørnemose Andersen, Birgith Kristensen, Mette Madsen and Svend Åge Tornbjerg. Photo: Museum Southeast Denmark.

south of the original excavations and that the extent and spread of the settlement were still not clearly understood.

Supplementary investigations were thus initiated in 1999 and 2000 with the purpose of locating the eastern, western and southern limits of the settlement. In 1999, five trial trenches were laid out in the southern section and, in 2000, these investigations were followed up by more trial trenches, as well as minor excavation areas in the eastern, western and southern areas. With these supplementary excavations, the archaeologists succeeded in establishing the extent of the central area with the great longhouses, while the remaining settlement turned out to continue further to the east, south and west. These excavations were summed up in two excavation reports (Sørensen 2000; Woller 2001).

In 2011, the investigations at Strøby Toftegård were resumed with funding from *Slots- & Kulturstyrelsens* (The Danish Agency for Culture and Palaces), funding for sites threatened by cultivation. Apart from documenting the gradual wearing down of the site, the purpose was to examine the nature of the settlement around the great longhouses, as well as to search for the outer limits of the settled area to the east and west. In 2011, broad trenches were dug in the field to the west and, in 2012, on the field east of the original excavation trenches. In this way, the eastern boundaries of the settlement were located, whereas the western ones have not yet been determined with certainty. The remains of Toftehøj, a Neolithic burial mound, was identified north-east of the original excavation trenches. North of this, a pit containing settlement pottery from the Viking Age was found, which shows that the mound was somehow incorporated into the settlement. However, no further searching for settlement traces was carried out in this area, so the nature of the settlement surrounding the mound is still not fully known. The reports from the 2011 and 2012 excavations were gathered into one report (Beck 2013).



Fig. 1.5. Situation from the 2013 excavations. Students from the University of Copenhagen are learning to use a trowel, under the guidance of archaeologist Mads Dengsø Jessen (at the front) and instructor Nilas Møller (further left). The students are (from the right): Mikael Bruun-Schmidt, Amalie Weitling, Cecilie Langkjær and Ulla Cordtz. Photo: Museum Southeast Denmark.

In 2013, the field south of the original excavation trenches was investigated by means of both trial trenches and minor excavation areas. There was a particular focus on a targeted search for pit houses, of which the settlement generally has few. Previously, two pit houses were observed in trial trenches across the field. A number of traces of the ordinary settlement were uncovered, and a few pit houses were identified. The settlement boundaries to the south and south-west were likewise identified. As expected, they follow the contours of the elevated land on which the settlement was placed and they were originally delimited by a wetland area to the south. Moreover, in 2013, the protected dike that runs across the central parts of the settlement was sectioned in three places in order to study the conditions of preservation underneath it. The 2013 excavations are described in a separate report (Beck 2014).

As is apparent, the site of Strøby Toftegård has been excavated over many rounds on small pools of funding, rather than in one great, coherent excavation campaign. This is often the situation for sites that do not fall directly under the protection of the museum law. Including the excavations in 1995–2000 and 2011–2013, a total of 46,020 m² has been uncovered and excavated, while around 27 ha have been surveyed, also by means of metal detectors. These extensive investigations have only been possible because of the massive support and persistent participation by volunteers from the local amateur archaeology clubs. Several of the excavation campaigns have likewise benefitted from the participation of long-term unemployed people on various occupational projects run by, respectively, Roskilde Amt and Køge municipality. For three years (1998, 2012 and 2013), the excavations at Strøby Toftegård were conducted together with first-year archaeology students from the University of Copenhagen as part of their practical training (Figs. 1.4 & 1.5). Most of the time, Køge Museum has been responsible



Fig. 1.6. A metal detector was used to search the topsoil as it was removed in thin layers by the JCB. Archaeologist Jesper Bork is handling the metal detector and archaeologist Mathias Søndergaard is guiding the JCB. From the 2012 excavation. Photo: Museum Southeast Denmark.

for the investigations. Following the merging of the municipalities of Vallø and Stevns in 2007, the formal archaeological responsibility for the site landed on the desk of Museerne Vordingborg. Køge Museum nonetheless retained an informal affiliation to the site and led the excavations of 2011 and 2012 jointly with Museerne Vordingborg. After the fusion of the museums of Køge, Næstved and Vordingborg in 2013, the responsibility for the site fell to the collective museum, Museum Southeast Denmark.

Investigation methods

From day one, the metal detector has been an indispensable tool in the investigations at Strøby Toftegård. The detector has been used alongside the excavations for a general search of the surface of the central field, as well as the adjoining fields to the east, west and south. These surveys have not been carefully planned or systematically thought out from the start. The impression is that the fields were searched thoroughly, but there may be bias to the effect that those areas of the field that had already yielded finds were subsequently searched more intensively than others. These searches have primarily been done during the periods when excavation was also ongoing. Metal detectors have also been used in the excavations in order to search the layers of topsoil during the uncovering process, to search spoil heaps and features being excavated and again after the excavated areas were covered up once more (Fig. 1.6). Metal-detector surveying was done primarily by experienced detectorists and by archaeologist Svend Åge Tornbjerg from the museum.

A decisive element of the investigations is the wide-ranging practice of sieving the soil of the layers of topsoil and the fill from features and cultural layers. The largest soil-sieving trench was placed across the central part of the settlement. This soil-sieving trench was later supplemented

with others in the north-eastern part of the settlement, as well as in the southern and south-western parts and in areas under the protected dike. In total, 482 m² of topsoil and cultural layers were sieved (Fig. 1.7). During the excavations of 1996–1998, half and often all of the fill from postholes that formed part of house structures was sieved. The fill from pits and the wall ditch of House 4 was also sieved, just as square-metre sections were laid out in the cultural layers. The sieving of fill from features continued during the subsequent investigations, albeit less intensively. There was a greater focus of sieving the fill from pits and only in a few cases from postholes. Sieving consisted mainly of dry sieving using a 3 mm sieve and was conducted by archaeologists from the museum, archaeology students and volunteers supervised by an archaeologist (Fig. 1.8).

The excavations were carried out in a strategic combination of trial trenches and larger excavation areas. The first trial trenches were guided by the extent of metal-detector finds and by the presence of darker soils on the surface of the field. The features that were uncovered in the trenches later constituted the guidelines for establishing which sections to excavate. This procedure continued during the excavations. When searching for the outer boundaries of the settlement in 2011 and 2012, only trial trenches were used, though in most cases they were of double width (4 m) so as to cover as large an area as possible with as little excavation as possible.

The removal of the topsoil was done using a JCB and in strips of up to c. 12 m in width. However, it was a major priority that house structures were cleared in full length so that the entire structure could be studied (Fig. 1.9). Due to practical circumstances, this was not possible in all cases. The clearing of both excavation areas and trial trenches was consistently done in several thin layers so that the topsoil could be searched using metal detectors as part of the process.

After the removal of the topsoil, features were marked and drawn. During the first excavations, up until 2011, the excavation plans were initially hand drawn at a scale of 1:50 and only subsequently digitised. From 2012 onwards, excavations were also measured using GPS. Where the measuring points (rammed-down iron pipes) from the original excavations could not be located during the most recent excavations, the digitisation of the hand-drawn areas has been geo-referenced by letting the GPS-measured excavations partially overlap with the old excavation trenches. This way, features from previous excavations could be measured using GPS, and the hand-drawn plans could be manually geo-referenced in order to obtain a coherent plan of the entire excavation.

The methodology was by and large the same throughout the entire excavation (Fig. 1.10). By far the majority of the excavated features were uncovered by sectioning the feature down the middle, and the profile that became visible in this way was photographically documented, drawn and

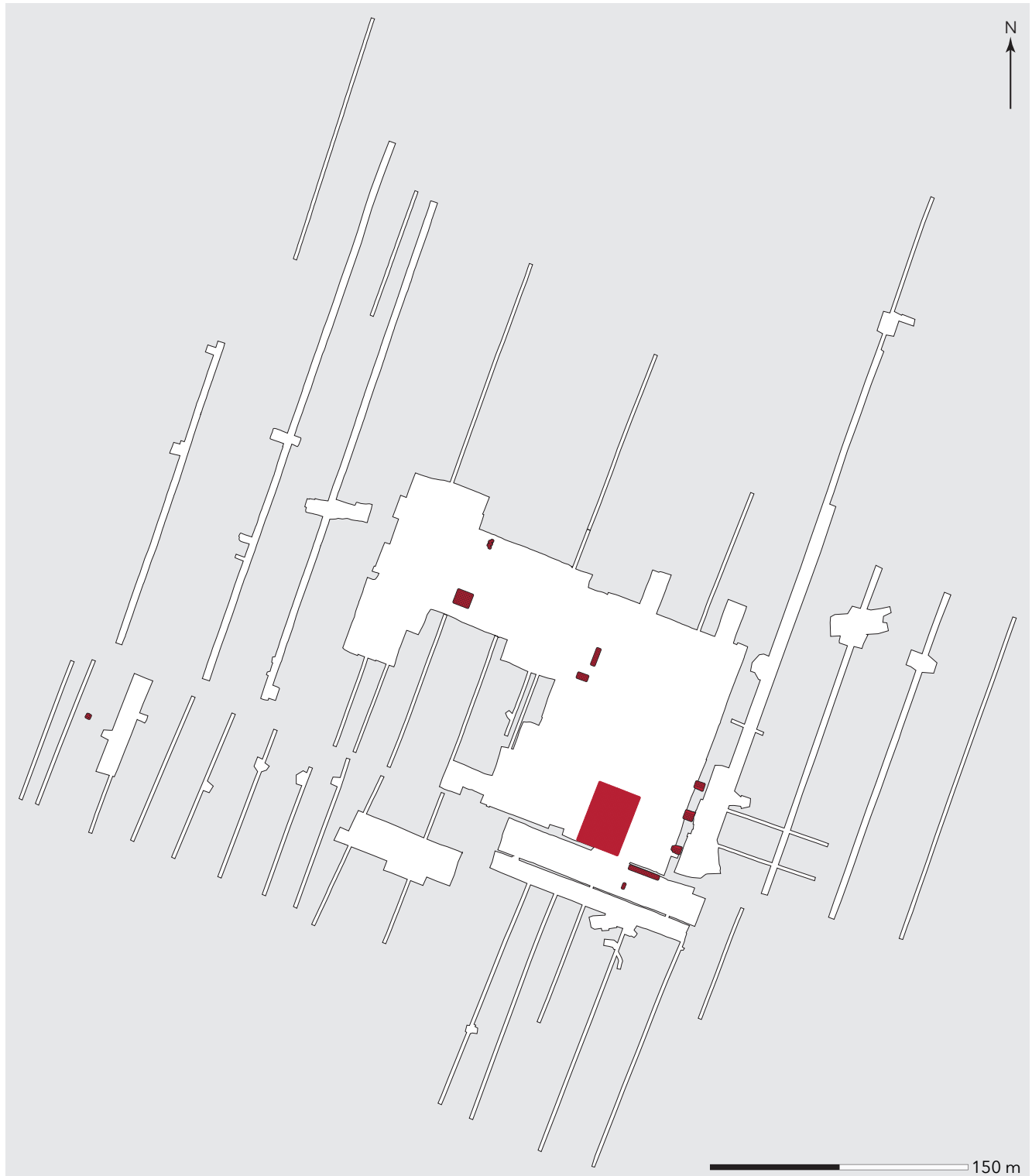


Fig. 1.7. Map of soil-sieving trenches at the excavations of Strøby Toftegård 1994–2013. Illustration: Museum Southeast Denmark.

described. Many features were subsequently emptied and the fill sieved. Sieving the fill, however, was done for most features in the early excavations, fewer in the later ones. Features that form part of selected house structures, as well

as pits with complex layering, were documented by means of drawings done to scale and descriptions. Remaining features were sketched in excavation notes, giving measurements of width and depth, as well as a description. Some of the large



Fig. 1.8. Excavation of square-metre trenches and following sieving of the soil (1995). The many volunteers who partook in the excavation work over the years must be given credit for the great number of soil-sieving trenches that were investigated at the site. Photos: Museum Southeast Denmark.



Fig. 1.9. House 2 during excavation, seen from the east (1996). Photo: Museum Southeast Denmark.

and deep pits were excavated by machine. In the case of a few pits, only a quarter of them was excavated.

Most of the houses were discovered during excavation, but a few were only recognised as houses during the subsequent study of the plans. During the processing of the material for the purposes of this publication, some of the original interpretations of the houses have been revised. Because of the variation in documentation methods (scaled section drawings, sketches and coherent descriptions), not all interpretations and reinterpretations could be tested, which meant that some house structures could not be critically reviewed. Moreover, during the new review of the material, a few extra house structures were recognised on the basis of studying the plans and comparing them with the profile drawings.

Already at the first excavations, soil samples were taken from various features. However, the way in which soil samples were gathered has changed over time, as has the purpose of taking them. To begin with, soil samples were

only taken from selected features (three of the large houses and a few of the large pits). The purpose of gathering these early soil samples was not described, and the samples were never processed. Even so, they have consistently been kept in the museum storage, in dry and safe conditions. Because of these good storage conditions, it has been possible to include them in the further processing work. During the last excavations, however, in 2012 and 2013, there was a targeted focus on gathering soil samples from structures with a view to finding material that could be ^{14}C -dated, so the approach during these excavation campaigns switched to systematically gathering soil samples from all roof-bearing posts. Moreover, soil samples were taken from the sequences of layers in selected pits. All soil samples have been subjected to flotation and systematically studied in order to catch macrofossils and (micro-) finds. Selected material from this process (grain and bone) was subsequently ^{14}C -dated.

State and conditions of the material

The many small excavation campaigns and the extended period of time that the investigations span necessarily result in a certain amount of variation in terms of methods, approaches, descriptions and more. This, in turn, raises a fundamental question regarding the comparability of the material. It has nonetheless been a conscious ambition to follow, insofar as it has been possible, the same excavation methodology as was employed during the first investigations. The collective assessment of the material as a whole thus is that it has the required comparability, as long as the interpretations take into account the potential deviations that the material may possess due to the small changes in excavation method.

The archaeological traces at the site are marked by modern cultivation and, across the entire settlement, the features



Fig. 1.10. Excavation situations: (Top) The soil is removed under the supervision of Svend Åge Tornbjerg in 1997. (Middle) Section of a pit is interpreted and registered in, respectively, 1996 and 2012. (Below) Features are excavated and documented in 2013. Photos: Museum Southeast Denmark.



Fig. 1.11. Trial trench across Toftehøj in 2012. On the surface, the mound site was only visible as a slight elevation rising from the field, but in the topsoil, the mound fill was recognisable as a striking increase in the concentration of stones (mainly flint) throughout the plough soil. The extension of the mound is indicated on the image. Photo: Museum Southeast Denmark.

generally are much worn down. Modern plough marks were visible in several places across the cleared subsoil surface, just like traces of ridge-and-furrow fields were also evident. Regarding all the houses and structures that were uncovered during the excavations, only traces of those construction elements that had been dug down into the earth could be discerned, whereas it has not been possible to recognise any original floor surfaces within the houses. Only one house (K216) contained an identifiable fireplace. Even so, both the degree of wear and tear and the preservation state of the material are generally speaking average for this type of site. The fragmented material nonetheless limits the interpretive extent with respect to houses and structures, which must be kept in mind not only in the present but also in any future processing of the material. For instance, neither finds nor find distributions within the houses say anything direct about where in the individual longhouses certain activities took place, but only provide a general impression of how the houses were used. Interpretations of the contemporaneity of features and structures are also limited by the lack of preserved fences or similar physical connections, and so interpretations can, at best, only be rendered probable on the basis of the locations of features in relation to one another.

Archaeology is a science in constant development, and new methods arise all the time. Because of this, it is also natural that an excavation campaign covering more than 20 years will experience renewals in terms of methodology, and that this will impact on the results. This has happened with, for example, the scientific tests. Whereas, previously, only a few soil samples were taken for not-very-clearly-defined scientific analysis, today, the standard is a systematic gathering of soil samples with a view to finding suitable material for ^{14}C -dating. This means that the selection of possible material available for scientific analyses is unevenly spread, and that the more recent excavations are better covered in terms of dating. On the other hand, it has been possible in these cases to date each structure by means of more than one date and thus obtain a statistically more certain result, which can be used to establish a chronological frame for similar structures elsewhere in the settlement.

The intensive use of metal detectors and soil sieving, especially across the area with the great longhouses, means that many finds have been made that would not otherwise have been registered. This pertains to, for instance, iron objects. Iron objects are often ignored during metal-detector searches, but some of the metal-detector searches made at

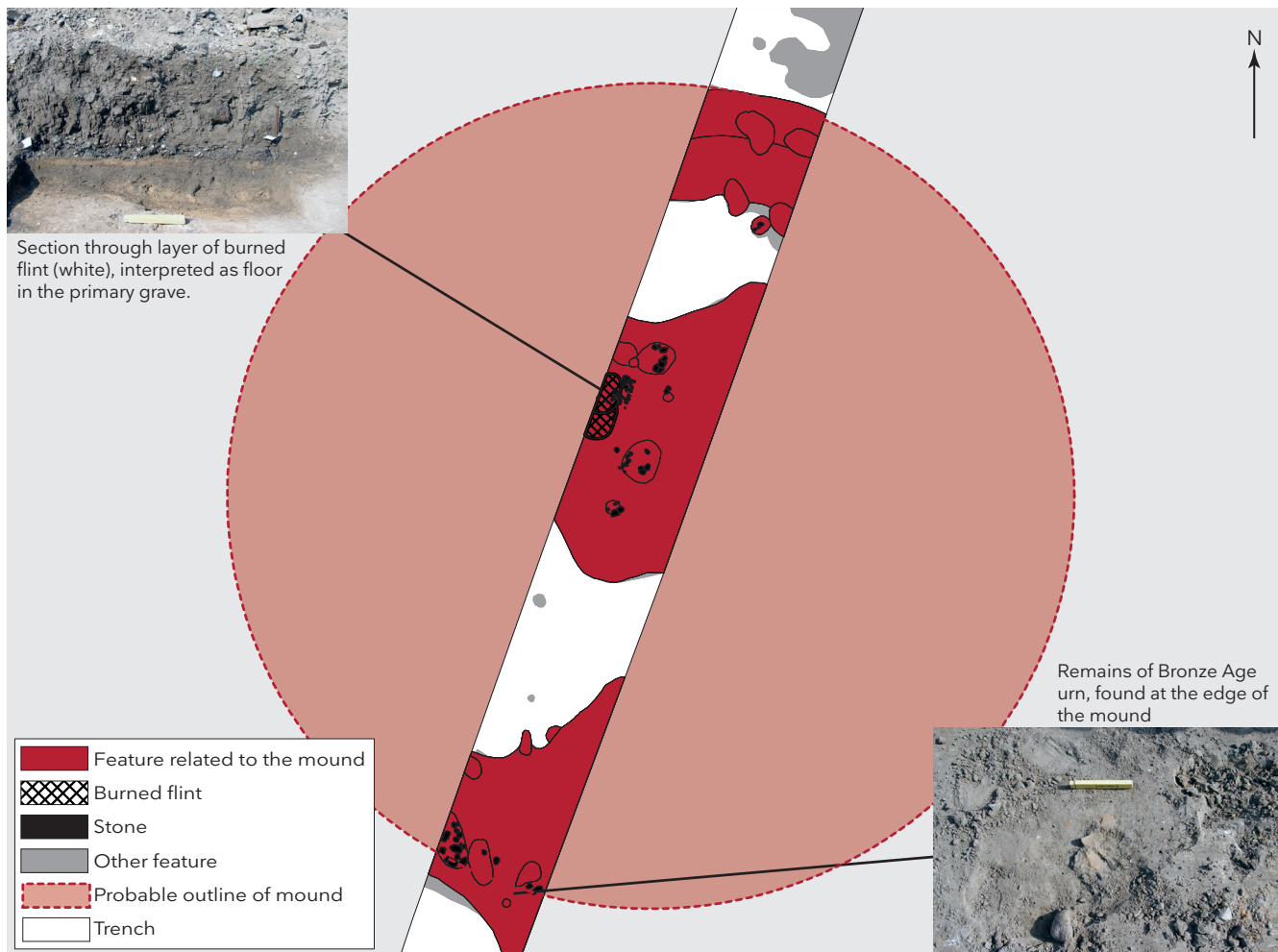


Fig. 1.12. The remains of Toftehøj. The interpretation of the outline of the burial mound indicates that the mound originally had a diameter between 25 and 28 m. Illustration: Museum Southeast Denmark.

Strøby Toftegård focused specifically on them. This, combined with the soil sieving, means that the number of iron objects found is larger than that traditionally seen at these sites, and also the number of micro finds (such as glass fragments and fishbones) is more abundant than normal. More generally, the finds from the soil-sieving trenches can result in distorting the picture of the object distribution, unless it is taken into account that the different areas of the settlement have been searched using different methods and with varying intensity.

An overview of Strøby Toftegård

Although the vast majority of finds and archaeological traces stem from the Late Iron Age settlement, and although this constitutes the main focus of the present publication, the excavations nonetheless reveal that there has been some activity on this site as far back as the Neolithic and up until today. Taking the archaeological results as the point

of departure, the main traits of the history of the site will now be presented in chronological order.

The Neolithic (3900–1700 BC)

The most conspicuous activity on the site during this period is the erection of a burial mound on a natural elevation in the north-eastern part of the area. During the excavations in 2012, the site of the burial mound known in the historical sources as Toftehøj was successfully identified. The burial mound was demolished in the late 19th century, but in connection with *herredsberejsningerne* (the national archaeological surveys in 1873–1930), it was described by the National Museum's archaeologist C. Blinkenberg in 1900 as a '6-m-long coffin made of large stones with several cover stones, oriented N-S, with no entrance; in this were supposedly found several skeletons and some stone tools. North and south of the stone coffin were allegedly two other, smaller stone-built graves whose contents are unmentioned' (text from SB 050612–1, our translation). When Blinkenberg

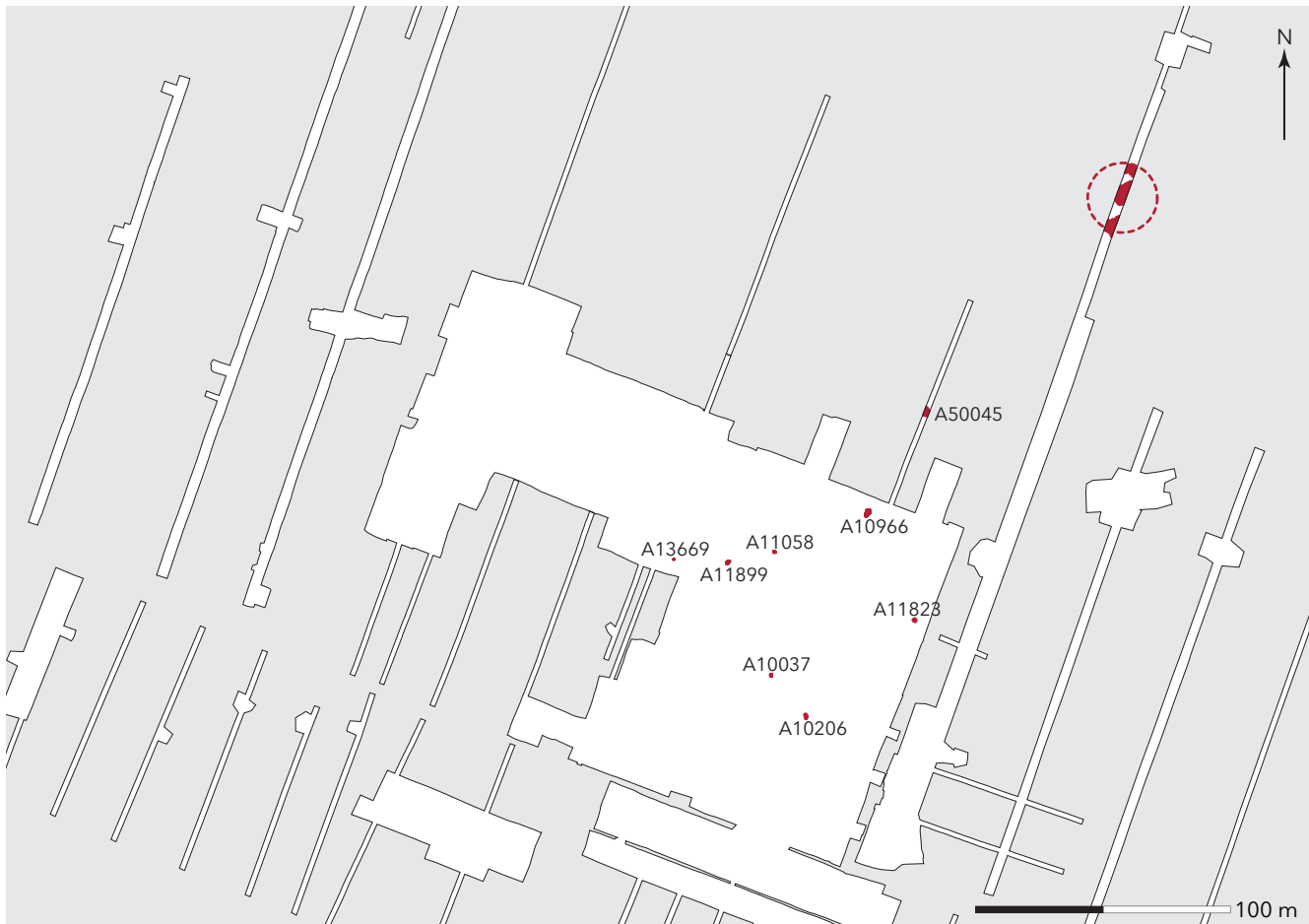


Fig. 1.13. Overview of features dated with certainty to the Neolithic. The stippled line in the northern part of the area indicates the presumed outline of Toftehøj. Illustration: Museum Southeast Denmark.

visited the place, the burial mound had been demolished a few years before and his description is based on recollections from local people. Today, the mound can only just be discerned in the landscape as a minor elevation on the surface of the field (Fig. 1.11). The investigation showed that the burial mound probably had an original diameter of 25–28 m and at least one central burial chamber constructed from large stones, with a stone lining and a floor of white-burnt flint (Fig. 1.12). It could not be determined whether there was a passage from the outside of the mound to the burial chamber or not.

Additionally, there were also scattered traces of other activities from the period. These traces consist mainly of smaller pits of varying shapes and sizes (A10037, A10206, A10966, A11058, A11823, A11899, A13669 and A50045) (Fig. 1.13). The pits have been dated on the basis of finds that typically consist of pottery, flint and, in some places, burnt clay, which may suggest that these are settlement pits. However, no traces of houses or other settlement structures were found. In the original excavation report, a circular structure is given a possible Neolithic date, but since no

finds were recovered from the feature, and it has not been dated in other ways either, it may just as well belong to the Late Iron Age. This, however, does not exclude that the place may have been settled in this period. Stray finds that undoubtedly stem from the Neolithic include three fragments of polished axes (two thin-butt axes (x618, x1095) and one thick-butt axe (x1107)), as well as two items of flint, an arrowhead (x597) and an unidentifiable tool (x1138). Moreover, pieces of Neolithic pottery were found in a range of pits that belong to the Late Iron Age settlement, and so these must stem either from features that have been dug away or from cultural layers that have disappeared.

When the burial mound was constructed cannot be precisely determined, but it must be broadly ascribed to the Early or Middle Neolithic period. During the excavations, a fragmented, undatable urn was also found in the southern foot of the mound. Combining this with the information from the *herredsberejsninger* of the 19th century, we can summarise that the burial mound – apart from the original, central burial – was reused for burials on at least three occasions (an urn and two stone coffins) (Beck 2013). In terms of dating,



Fig. 1.14. Overview of features dated to the Late Bronze Age. The stippled line in the northern part of the area indicates the presumed outline of Toftehøj, while the stippled line in the middle of the excavation plot indicates the urn burial site. Illustration: Museum Southeast Denmark.



Fig. 1.15. Graves A and C during excavation (1996). Photo: Museum Southeast Denmark.

the remaining finds from the site represent the entire period, from the Early Neolithic (thin-butted axes and funnel beaker) to the Late Neolithic (flint arrowhead), which confirms that activities took place here over an extended period of time.

The burial mound is located in the far north-eastern part of the investigated area, while the pits were found in the area to the south-west. The stray finds, however, have come from across the investigated area. Generally speaking, the number of Neolithic features is not very high, so even if we imagine that some of the undated features of the site may stem from the same period, it is unlikely that there was a high degree of activity on the site during Neolithic times. Certainly, it is difficult to recognise a settlement as such on the basis of the excavated features. The reburials in the grave mound, however, indicate that the grave mound continued to be an active part of the Neolithic landscape, perhaps also through very long subsequent periods, and so the place continued to hold meaning for the people who populated the area.

The Late Bronze Age (1000–500 BC)

In the central part of the first excavation area (1996), five or six urn burials dating from the Late Bronze Age were found (Graves A–E, and A10293) (Fig. 1.14). These urn burials were generally very ploughed down. Yet, several of the urns were surrounded by stones that were still *in situ* (Fig. 1.15). The urns themselves were poorly preserved, except for the urn in Grave A, which is relatively undamaged. Even so, burnt bones were found in all the urns. In Grave B, a double-button (x569), a possible razor (x572) and a needle or awl (x573) were also found, all made of bronze. In Grave D, a small bronze button was found (Woller 1998, 87). The feature A10293 possibly constitutes the last remains of an urn burial, since a small concentration of pottery sherds was found here but without any other traces of digging. Sherds were also found in other features close to this place (A10683 and A10747). And sherds of Late Bronze Age pottery have moreover been found in several of the round cooking pits that belong to the Late Iron Age settlements, which may suggest that there were originally more urn burials at the site. One of the reburials in Toftehøj (an urn placed in the foot of the mound) may possibly date from the Late Bronze Age.

Apart from the urn burials, several pits containing Late Bronze Age pottery were found. Two such pits (A10288, A30151) stand out by being grave-shaped and having relatively large amounts of pottery (especially A30151, which is described as virtually lined with ceramics). The other pits (A2005, A20344, A30020 and A30826) vary in shape and size, but are generally larger and more complex than the pits dated to the Neolithic. On the basis of layering and finds, they appear to be settlement pits. Additionally, two intact flint sickles as well as fragments of a third sickle (x1089, x1140 and x1240) turned up as stray finds in the investigated area.

The features dated to the Late Bronze Age stem from two areas. The urn burials, the elongated grave-like pits and the later pits with Late Bronze Age material mixed in are all located in the south-eastern part of the original excavation trench, while the large settlement-like pits are more scattered across the area, with no detectable pattern. The traces suggest that there was a minor burial place at the site, perhaps established in relation to the older burial mound (Toftehøj) to the north-east, but there may also have been scattered settlement in the area, although it has not been possible to delimit this more specifically.

Pre-Roman Iron Age (500–1 BC)

A sizeable find of grains was made in a posthole (A30534). A single ¹⁴C-dating was produced for these, placing the find in the Pre-Roman Iron Age (95%: 395–345/320–205 BC). However, the posthole cannot be linked to any recognised structure (Fig. 1.16), and so the find can only be regarded as an indicator of potential settlement in the area during that period.

Late Roman Iron Age and Early Germanic Iron Age (AD 200–550)

Judging by the archaeological traces, the site seems not to have been inhabited during the centuries just after the birth of Christ. This does not in itself mean there was no activity in the area, but any such activities have not left lasting or recognisable traces – it could have taken the form of cultivation or grazing, for example.

There are, on the other hand, concrete traces of houses on the site from the transition between Late Roman and Early Germanic Iron Age. During the 2013 excavations, a longhouse emerged (K312). The longhouse is one-aisled with clear traces of regularly placed wall posts (Fig. 1.16). The walls are straight but taper slightly with the outermost set of posts at either end. In total, the house is 5.8 m wide and 26.5 m long. The one-aisled construction is atypical for the period, and the initial assessment during the excavations was that this must be an Early Medieval house, but two ¹⁴C-dates both place the longhouse at the transition from Late Roman to Early Germanic Iron Age (Table 1.1). However, no finds were made at the house site and so the dating cannot be qualified.

The dating of the longhouse, however, fits with a number of stray finds made in the investigated area whose dating matches that of the house. These are two bow brooches (respectively cat.nos 10 and 11), part of a sheet-metal brooch (cat.no. 15) and possibly a strap-end fitting (cat.no. 162). Yet, no other features can be linked directly to this period, so it is unlikely that this habitation lasted for a long time. Despite the fact that the orientation of the longhouse is reflected in the subsequent settlement, the small number of features and structures does not suggest continuity between the settlement of this period and the time when the next settlement is established.



Fig. 1.16. The longhouse K312, dated to the transition from Late Roman Iron Age to Early Germanic Iron Age. North of this, the posthole A30534 is marked. A large number of cereal grains found here were dated to the Early Pre-Roman Iron Age. Illustration: Museum Southeast Denmark.

Table 1.1. Overview of ^{14}C -dated samples from the longhouse K312.

Feature/sample	Type of feature	SampleID	Material	Radiocarbon age BP	Cal BC 68.3%	Cal BC 95.4%
A30536/P124	Posthole, K312	Beta-429158	Barley	1620±30	400–425	385–473 483–535
A31050/P211	Posthole, K312	Beta-429159	Barley	1600±30	415–435 460–465 490–535	395–540

Judging by their general typological expression as well as the absence of burnt stones in their posthole fills, House 58 and Houses 212–214 stand out from the remaining house structures of the settlement. These houses may belong to a settlement older than the magnate settlement, although this cannot be confirmed through finds or scientific dating. It is thus uncertain what phase of the settlement on the site these house structures belong to.

Late Germanic Iron Age and Viking Age (AD 650–1000)

In the mid-7th century, an extensive settlement was established on the site, consisting of as many as nine farm units (though hardly all of them were contemporary). Only a brief summary of the overall traits will be presented here, and the details will be treated in the rest of the present publication.

On the basis of the excavations, it is estimated that the settlement as a whole originally covered an area of more than 160,000 m² (Beck 2014). Of these, 46,020 m² have been studied. Although the settlement is thus far from fully excavated, the material nonetheless undoubtedly shows that

the settlement was clearly divided up, as is reflected in the architecture as well as the features, constructions and finds of objects.

On a small, natural plateau, a little elevated from the remaining terrain, lies the part of the settlement that is dominated by the five great longhouses (Farm 1) (Fig. 1.17). The great longhouses are between 36 and 39.5 m long and relatively well preserved. All in all, the features give the impression that the longhouses were erected successively so that only one was in place at any given time. Between the great longhouses lies a small, rectangular enclosure with a range of smaller, atypical buildings that all have two phases. The enclosure recalls other enclosures containing special buildings at, for instance, Tissø and Järrestad, where the buildings are interpreted as cult houses. However, no specifically cultic objects have been found in any of the buildings at Strøby Toftegård. Additionally, there are only a few smaller longhouses, but no smaller constructions, large pits or wells within the area of this farm. The farm is surrounded by a belt of cooking pits, which creates a kind of boundary of the farm area, separating it from the remaining

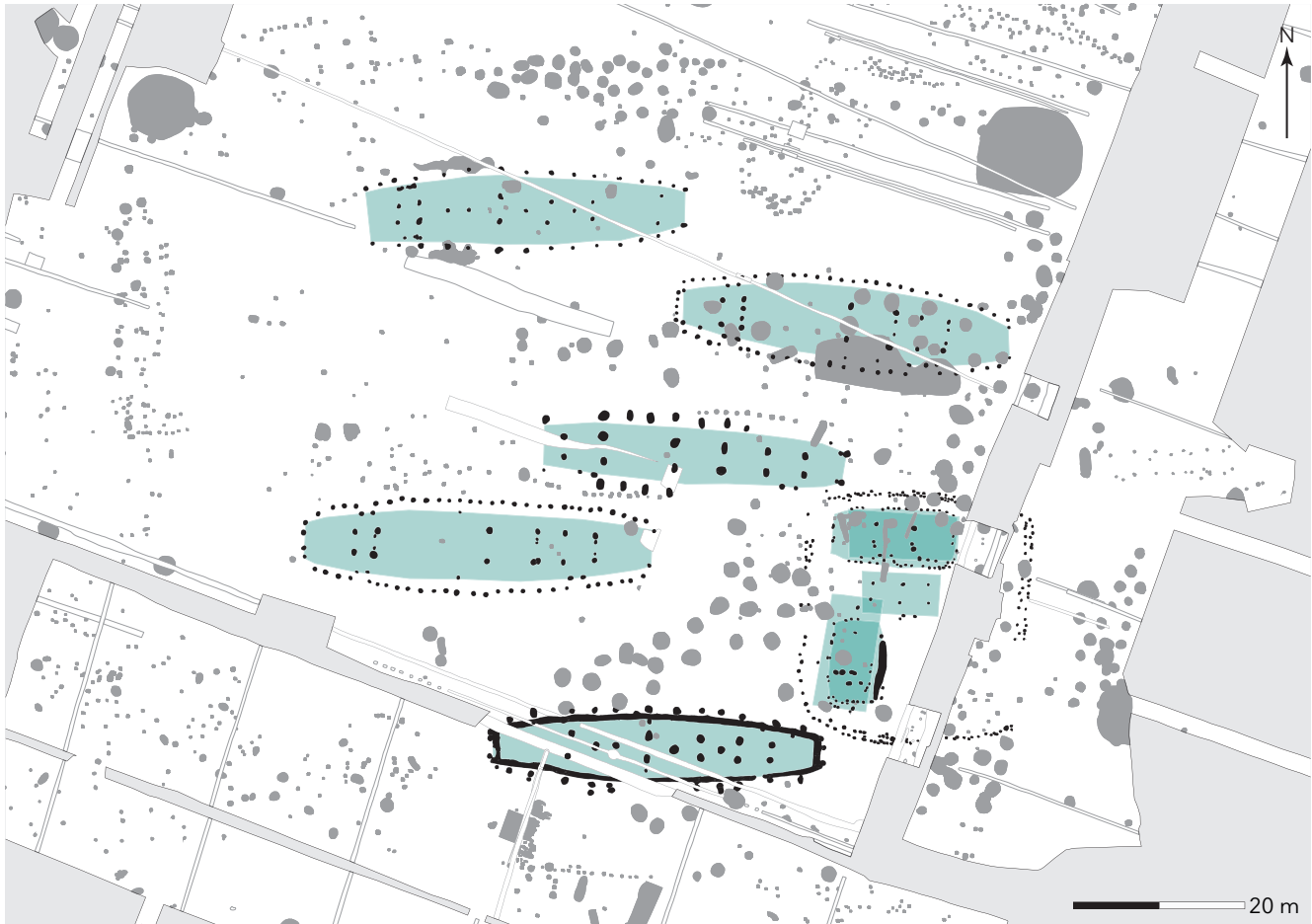


Fig. 1.17. Farm 1 with the five large longhouses, as well as the rectangular enclosure. Illustration: Museum Southeast Denmark.

settlement. The concentration of finds is about five times higher here, within Farm 1, compared with the rest of the settlement (Tornbjerg 1998a, 219). Many finds of fine metal objects were made in this area, among these oval brooches, bird-shaped brooches, bronze fittings, a silver Thor's hammer, Kufic coins and seven *guldgubber*. Many of the items of jewellery are of high quality, and there are several exotic, imported pieces among them, from among other places, the Frankish area and the British Isles. Also, weapons were found in this area, in the shape of, for instance, more than 45 arrowheads, as were a large number of glass beads and sherds of Frankish glasses, among these the foot of a claw beaker. However, the finds also include more modest items such as settlement pottery, some of which is Baltic Ware, as well as whetstones, quernstones and fragments of soapstone. Some of the ceramic goods are probably imported. Production waste from both smithing and jewellery making has been found, including bead making and bronze casting (Tornbjerg 1998b, 16). Finds of loom weights and spindle whorls moreover reveal that textile production featured in the area. The inventory of objects is thus very mixed and suggests a varied use of the area.

The architecture in the remaining settlement is of a more mixed nature featuring longhouses of varying size (Fig. 1.18). The largest longhouses are around 30 m long, but most of the houses are less than 20 m in length. The postholes generally have smaller dimensions and are shallower, and their state of preservation is somewhat poorer in the rest of the settlement compared with Farm 1. On the whole, the impression is that the structures were slighter built in the area outside Farm 1. Many of the longhouses show signs of repair and of posts having been replaced, while several of the longhouses, moreover, have several phases placed on top of one another. This part of the settlement also holds various smaller buildings, pit houses, large pits and wells. The conspicuous, stone-filled cooking pits that we see around the central farm, however, do not occur in the rest of the settlement. The difference in what kinds of pits are found where in the settlement suggests that there was a sharp division in terms of what types of activities were carried out where. Even if we take into account that Farm 1 has been more intensively examined than the rest of the settlement, the concentration of objects found elsewhere in the settlement

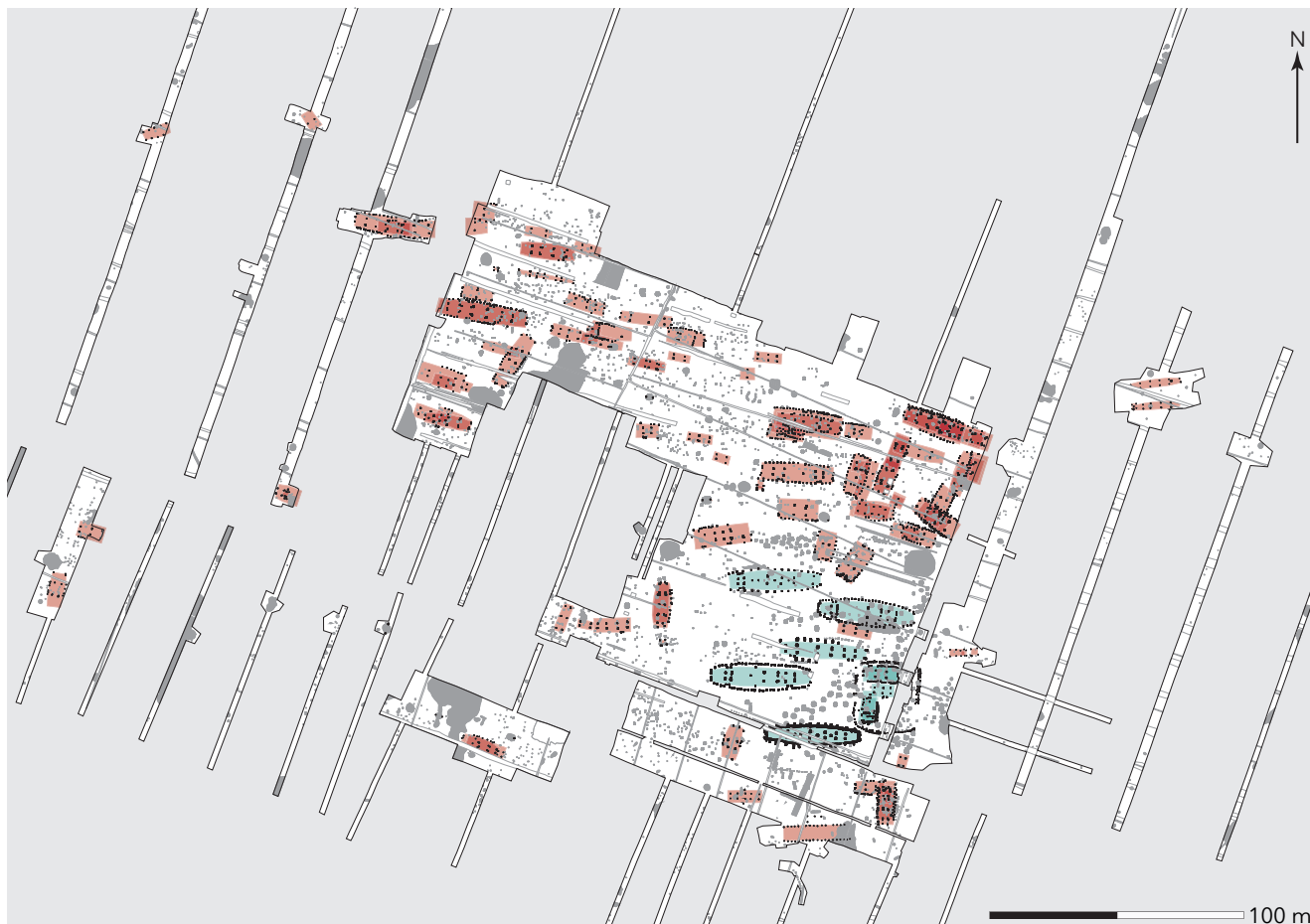


Fig. 1.18. Overview of the settlement. All houses are indicated, while the five great longhouses of Farm 1 are highlighted in blue. Illustration: Museum Southeast Denmark.

is still smaller compared with the central farm. At the same time, the nature of the finds is also different. The area outside Farm 1 throws up a higher percentage of ordinary settlement finds, such as pottery, knives, whetstones and tools, instead of pieces of jewellery, fittings and other metal objects. Kufic coins, glass and arrowheads are practically not found in the rest of the settlement, although a few luxurious items of jewellery and a single *guldgubbe* have been found in this area. In the settlement, there are traces of production in the form of blacksmithing and bronze casting, but there is a special concentration within Farm 1. Tools used for producing textiles are found especially in the pit houses. It is noteworthy that traces of bead production are found only at Farm 1, and not elsewhere in the settlement.

On the basis of the overall impression from the architecture, features, structures and objects, the settlement is traditionally interpreted as a magnate settlement with a centrally located magnate farm surrounded by an agrarian settlement of at least eight farm units of varying character, size and perhaps also longevity.

Middle Ages and historical times (AD 1000 onwards)

After the wealthy settlement was abandoned shortly before 1000, it seems that habitation of the area was discontinued and the area turned into farmland. Traces of ridge-and-furrow fields are found across the entire area. These were oriented east-west and probably belonged to the farms located in the village of Strøby.

In connection with the agricultural reforms of 1797, the current plot division was, in the main, established. At the same time, the farms of Pilehavegård (Stagemosegård) and Toftehøj(-gård) relocated, moving out from Strøby village into the investigated area. In connection with the cadastral register of 1844, Toftehøjgård was divided into two smaller farms, and Toftegård was built (Fig. 1.19). With the latest plot division, a dike was built that runs across the investigated area, and which is now protected. The investigated area is still cultivated land today. However, the main part of the lands no longer belongs to the original farms at the site, but has been bought by other, nearby farms.

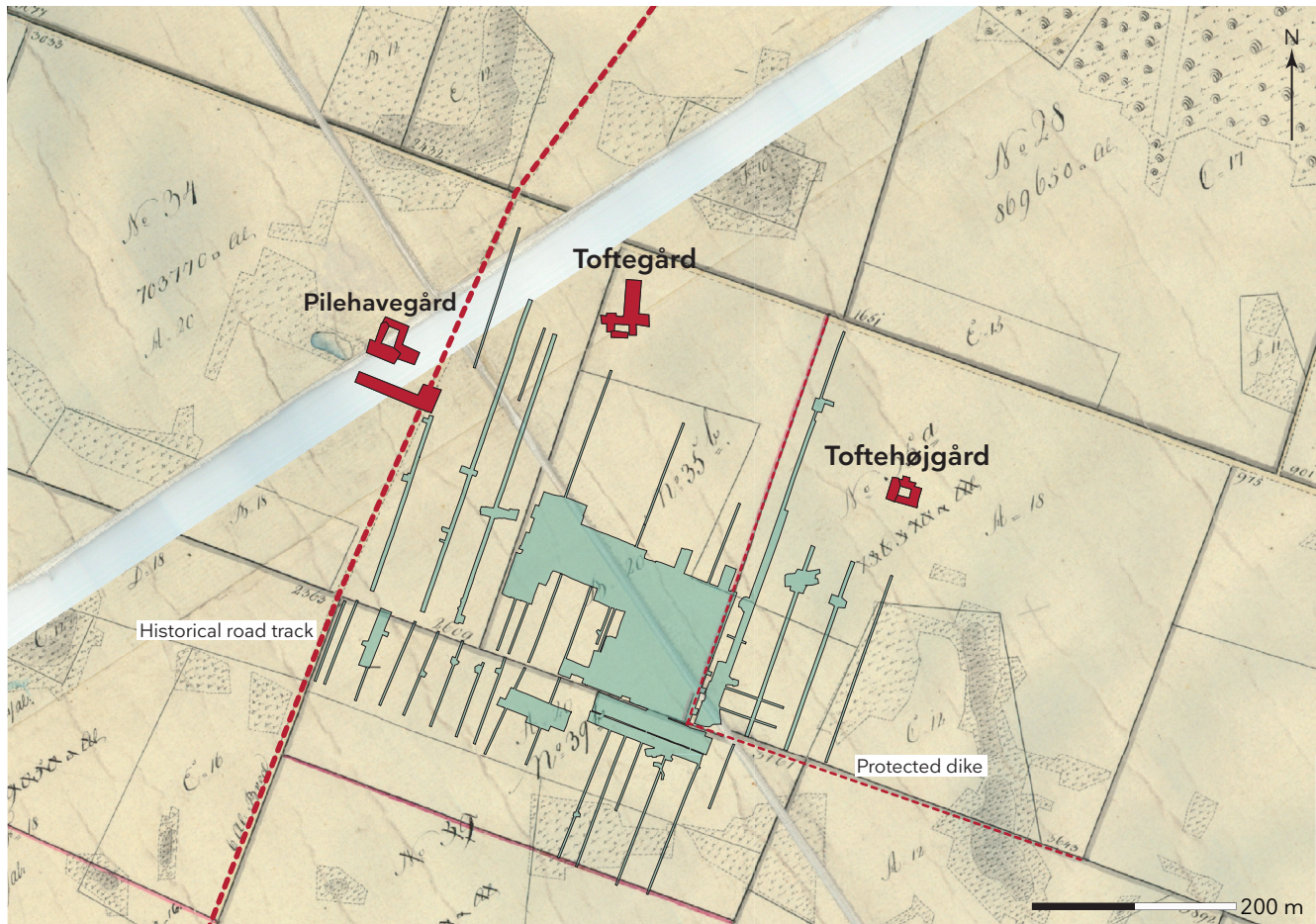


Fig. 1.19. Marking the excavation trenches onto Original 2 maps (from 1844). The existing farms have been transferred onto the map from modern maps. A protected dike and a historical road track leading to the coast are highlighted. Illustration: Museum Southeast Denmark.

Purpose and structure of the book

Hitherto, there has been no coherent treatment and presentation of the material from Strøby Toftegård, which may be due to the complex excavation history of the site. Over the years, there have nonetheless been writings dealing with the excavations in Køge Museums Årbog (Tornbjerg 1995a; 1998a) and other annual reviews of historical topics (Tornbjerg 1995b; 2000). A preliminary presentation of the Late Iron Age settlement was also put together in connection with the Uppåkra project (Tornbjerg 1998b). A number of the metal objects have furthermore been assembled and reviewed as part of a project about metal-detector sites near Køge Bugt (Sørensen 2002; 2008). Although there have, thus, been several opportunities for publishing material from the site over the years, it was not until the research project on Pre-Christian Cult Sites (*Førkristne Kultpladser*) initiated by the National Museum of Denmark that the funding was procured for a coherent treatment and presentation (Jørgensen 2010; Jørgensen & Drotner 2011; Bican, Beck & Klingenberg 2012). The present publication is the result of this work.

The overall purpose of the publication is to present, process and discuss the extensive material from the site, focusing predominantly on the Late Iron Age settlement. More narrowly defined, the purpose is to investigate and discuss how the settlement at Strøby Toftegård qualifies for the label of a magnate farm and how this is expressed in the archaeological material. The different articles of the publication have thus been written with a view to responding to the question: *What is Strøby Toftegård?* And as part of this to shed some light on what functions Strøby Toftegård had – practically, politically, culturally. What criteria are fulfilled that make this place ‘something different from and more than’ other contemporary settlements in the area? How is Strøby Toftegård to be understood in relation to the social landscape that surrounds it? In concrete terms, these aspects have been investigated by having all articles of the present book contribute to the comparisons between archaeological material from Farm 1 and that of the remaining settlement as a way of shedding light on how the site as a whole is to be understood and interpreted.

In the first part, Anna S. Beck and Maja Kildetoft Schultz present and discuss constructions, structures and functions within the settlement, its division into units and also the chronology and development of the settlement on the basis of the current datings (Chapter 2). The articles that follow delve into individual aspects in order to explore them in detail: Anna S. Beck looks at the longhouse architecture (Chapter 3) and Maja Kildetoft Schultz the various types of pits, features and cultural layers (Chapter 4). Peter Steen Henriksen and Morten F. Mortensen present finds of macrofossils from postholes and pits in order to discuss what they reveal about the function of the site (Chapter 5). Finally, Anne B. Gotfredsen considers the extensive faunal material from houses and pits in terms of differences and similarities within the overall structure of the site (Chapter 6).

In the second part, the many objects that have been found are treated, divided into the traditional categories of items. Maria P. Bastrup presents the metal objects from the site and what they tell us about the extensive social networks that helped shape the society of the Late Iron Age and the Viking Age (Chapter 7). The remaining categories of finds from the settlement, including pottery and tools, are presented by Maja Kildetoft Schultz (Chapter 8). Birgitta Hårdh studies the Arabic silver coins, other coins and hacksilver (Chapter 9), while Torben Sode analyses and discusses the beads as well as the vessel and window glass from the settlement (Chapters 10–12). The new scientific possibilities for analysis of glass and its provenance, which are used in the analyses of the glass from Strøby Toftegård, are presented by Bernard Gratuze (Chapter 13).

In the third part, Strøby Toftegård is placed in a greater landscape-related context through a description of both the natural and the social landscapes. Maja Kildetoft Schultz introduces the landscape around Strøby Toftegård in terms of its topography, vegetation, infrastructure and contemporary settlements, and she highlights the important questions that these factors raise in terms of the role played by Strøby Toftegård in its contemporary period (Chapter 14). Laurine Albris considers not only the place-name environment in the vicinity of Strøby Toftegård but also the older place-name environments in Stevns, as well as their development. Together, the chapters present the historical and ideological context in which Strøby Toftegård existed (Chapters 15 & 16). Finally, through a comparison between the magnate sites of Tissø, Lejre, Järrestad and Strøby Toftegård, Anna S. Beck discusses how the reuse of older monuments, the erection of longhouses on the site of former longhouses and the establishment of new monuments contributed to consolidating the role and position of the magnate in the society of the Late Iron Age and Viking Age (Chapter 17).

In the conclusions, Anna S. Beck, Maja Kildetoft Schultz and Jens Ulriksen gather the results of the contributions to the book into a discussion of the interpretation of Strøby Toftegård as a magnate farm (Chapter 18).

We have attempted to streamline the use of terms and concepts throughout the book. Among other things, we have decided to use the notion of a *magnate* in our treatment and interpretation of Strøby Toftegård, since we regard this as a broad and dynamic concept (see also Chapter 18). Consequently, we refer to the central farm of the settlement (Farm 1) as a magnate farm. *Magnate settlement* refers to the settlement as a whole, including the farms surrounding the central farm, and when we refer to a *magnate complex*, this describes Strøby Toftegård in its social context, thus including nearby places such as Kastaniehøj. Regarding designations for periods of time, we have decided to use mainly, and for the sake of convenience, the label Late Iron Age as the designation for the period comprising the Late Germanic Iron Age and the Viking Age, which in practice corresponds virtually to the lifespan of the settlement (AD 650–1000). However, the more common designations for the period in question, Late Germanic Iron Age (AD 550–750) and Viking Age (AD 750–1050), are used when relevant. For more precise dates, years or centuries are given. Finally, we have decided to refer to the site under the name of Strøby Toftegård (it was formerly known as just Toftegård). This decision rests on administrative and practical factors that make it possible to distinguish between this site and other places within the local region that are also called Toftegård.

It has been a long process to produce a coherent manuscript presenting the settlement at Strøby Toftegård. Some of the chapters were submitted years before they are now printed, and although it has been possible to update them along the way, this should be kept in mind when reading the separate contributions to the book. Some of the contributions (Chapters 3 & 15–17) started as parts of now finished Ph.D. projects, while the rest were written specifically for this publication. On the whole, this process illustrates rather well that a publication must never be regarded as the final word, but more as a kind of status report on the knowledge and ideas that are current at the time when it is published. So, as a way of wrapping up this introduction, it is important to note that, even after our treatment and presentation of it, the settlement at Strøby Toftegård still holds unknown elements and phenomena that we may not yet have fully understood or whose extents remain uncharted. Apart from making the material accessible to future research, the aim of the present ‘status report’ is to follow up on the questions and problems that are still present within the material, so that qualified questions may be asked when archaeological investigations are carried out in this area in the future.

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The settlement at Strøby Toftegård: Structure, dating and development

Anna Severine Beck & Maja Kildetoft Schultz

Abstract

The article surveys the structure, dating and development of the settlement at Strøby Toftegård. The argument that the settlement was established in the middle of the 7th century and that it was abandoned shortly before AD 1000 is presented. The physical structures and the distribution of objects are investigated and, on the basis of this, the settlement is interpreted as being divided up into at least nine farm units. Of these, especially Farm 1 stands out due to its construction, size, types of features and the number of finds made here. Likewise on the basis of the types of features and objects found at Farm 1, this was home to activities that differ from those taking place at the remaining farms. The survey of the development of the settlement shows that Farms 1 and 2 existed throughout the period during which the settlement was active, while the other farms do not have the same durability. The settlement seems to have attained its greatest extent in the second half of the 9th century when it consisted of at least six farm units.

Keywords: Settlement structure, artefact distribution, farm structure, farm, dating, chronology, development

During the excavations at Strøby Toftegård in the northern part of Stevns between 1995 and 2013, a wealth of archaeological material was uncovered in the form of a large number of archaeological features from larger and smaller house structures, pits and cooking pits, as well as a variety of objects, including unique imports, high-quality metalwork and remains of everyday life in the settlement (Woller 1998; 2001; Sørensen 2000; Beck 2013; 2014). As a whole, the archaeological material paints a picture of a large and diverse settlement that can be dated to the Late Germanic Iron Age and the Viking Age (AD 650–1000) (henceforth described as the Late Iron Age).

The purpose of the present article is to present those settlement structures that can be identified in the archaeological material and to consider their developments and dates. The overall purpose of the analysis is to establish a basis for a better understanding of the nature and dynamics of

the settlement. In this connection, the structures are defined both as physical structures and as perceived structures. The physical structures are interpreted as expressions of what houses and buildings looked like, and the perceived structures are seen as expressions of how they functioned in practical terms and thus how they were experienced in everyday life. While the physical structures thus reflect where houses and other features were placed in relation to one another and the connections and separations this creates within the settlement, the perceived structures are reflected in the distribution of artefacts and thus in the organisation of various types of activities within the settlement. The intention thus is to present as nuanced an image as possible of the settlement's structure. Taken together, the survey establishes a solid foundation for unveiling the structures that can be recognised in both physical traces and everyday practices and which must

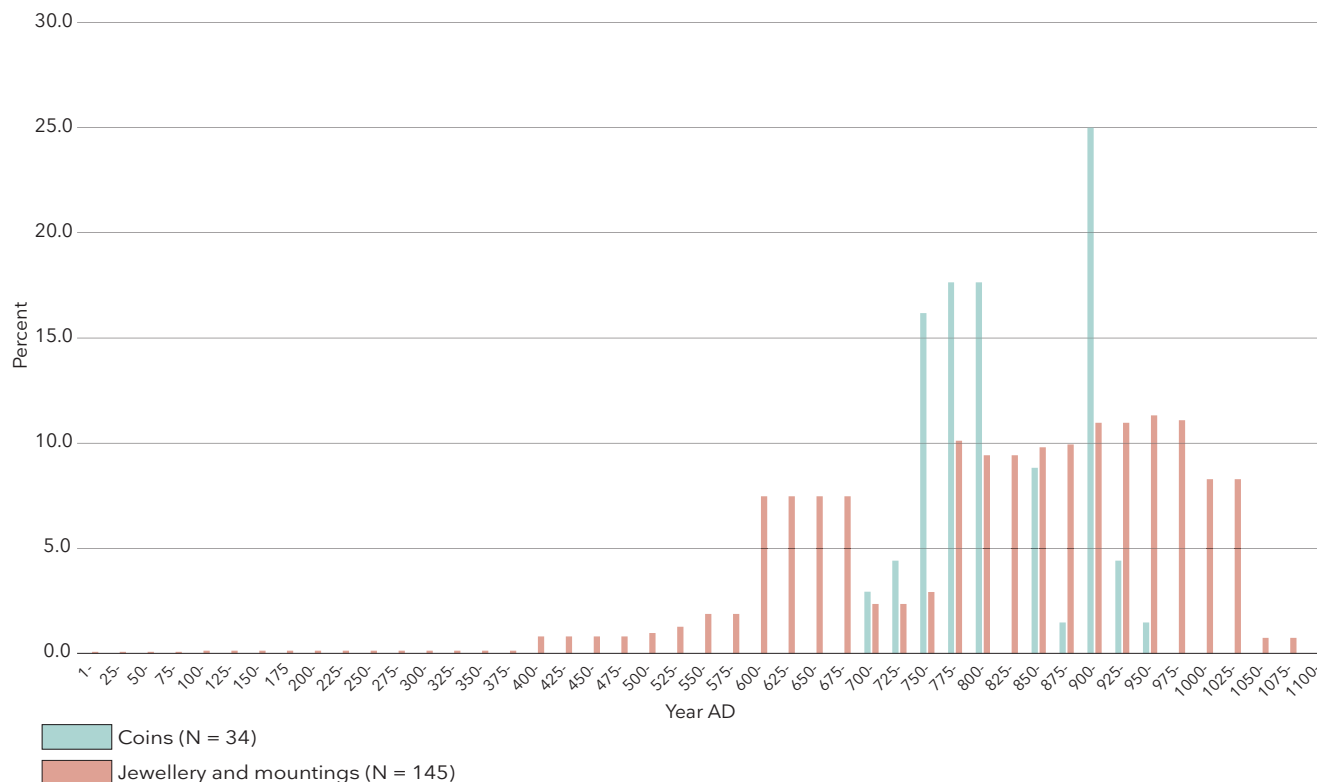


Fig. 2.1. Overview of the dated metal items (only jewellery and fittings), as well as coins, distributed across intervals of 25 years. If an item can only be dated more broadly, each 25-year section holds equal validity. The dates are subsequently distributed as percentages (for method, see also Hårdh, Chapter 9). Diagram by the authors based on Baastrup, Chapter 7 and Hårdh, Chapter 9.

therefore be regarded as decisive for our understanding of the nature and function of the settlement.

The article is organised in such a way that the general basis for dating the site is presented first and with the purpose of placing the settlement within a general timeframe. Following this, the physical structures and farm units that comprise the settlement are introduced. This includes considering the basis for dating each individual farm unit as well as the development of the settlement as a whole. Finally, the presence and organisation of activities within the settlement are presented on the basis of the distribution of selected categories of objects (ritual items, imports, personal items, weapons and equestrian gear, as well as production waste and tools). The article treats the archaeological material on a general level, while house structures and pits are presented and analysed in detail in separate contributions to this publication (see Beck, Chapter 3; Kildetoft Schultz, Chapter 4). Macrofossils, faunal material and objects are likewise presented in detail elsewhere in the publication (see Henriksen & Mortensen, Chapter 5; Gotfredsen, Chapter 6; Baastrup, Chapter 7; Kildetoft Schultz, Chapter 8; Hårdh, Chapter 9; Sode, Chapters 10, 11 & 12). For details regarding the archaeological material, the reader is referred to these articles.

Dating of the settlement

The dating of the settlement at Strøby Toftegård is based partly on archaeological dates in the form of the dating of objects, typological considerations and observations of stratigraphy, partly on scientific ¹⁴C-dates. Since either method has its own strengths and weaknesses, the principle has been that the most precise dating is obtained by using several dating methods concurrently. The more of such dates that agree, the greater reliance attached to the date. If, on the other hand, the dates contradict one another, an assessment of the most probable dating is made on the basis of the context and source-critical factors.

The archaeological dates arise partly from the artefacts that were found, partly from the archaeological features and constructions. Due to the thorough excavation methods, including widespread sieving of the plough layer and fill from archaeological features, the number of objects found is sizeable (see Beck, Kildetoft Schultz & Tornbjerg, Chapter 1). Especially the metal objects, such as jewellery and fittings, as well as coins, offer good opportunities for fairly precise dating (Fig. 2.1). In total, 270 of the 403 metal objects can be dated more or less precisely on the basis of stylistic details, typological surveys and comparisons with parallels from other sites (Baastrup, Chapter 7). The oldest

metal objects from the excavations are dated to the Late Bronze Age and the youngest to the Early Middle Ages. A few iron brooches can be dated to the Early Iron Age (Roman and Early Germanic Iron Age), but the vast majority of dateable metal objects fall within the frame of the mid-7th century until the end of the 10th century. Of the 36 Arabic coins that were found, 34 can be dated. The oldest of them was minted in AD 698 and the youngest in AD 955. However, the coins show an uneven spread within this period, with the coins dividing into two groups from, respectively, the latter part of the 8th century and the beginning of the 10th century. Even so, this distribution agrees rather neatly with the dates of the other metal objects. The pottery found on site reflects, like the metal objects, that there was activity here during periods prior to the Late Iron Age. Pottery that can be unequivocally dated to the Roman Iron Age, however, is absent, while some of the pottery cannot be dated with any certainty. The main bulk of dateable pottery does nonetheless belong to the Late Iron Age. Artefacts such as spindle whorls, whetstones, combs, beads and glass sherds can in some cases be dated to the Late Iron Age, but in many cases a broader dating to, for instance, the Iron Age cannot be excluded.

Since longhouses from the Late Iron Age and the Viking Age were first found, typological studies aiming to identify traits unique to the period have been carried out (e.g. Hansen, Hvass & Mikkelsen 1991; Hvass 1993; Tesch 1993; Schmidt 1994; Skov 1994; Jørgensen & Eriksen 1995; Artursson 2005). These manufactured house typologies are also used for integrating and dating new finds. The typological studies emphasise features such as curved long sides, large spans of length between the roof-bearing pairs of posts, straight gables and slanting supporting posts as belonging to the Late Iron Age. All these characteristics apply to the longhouses found at Strøby Toftegård and are described as chronologically significant in, among others, Skov's study of house typology (Skov 1994). According to Skov's typology, longhouses of the following types – 'three-aisled houses with curved long sides', 'three-aisled houses with straight long sides', 'houses with buttresses and curved long sides' and 'one-aisled houses with straight long sides and wall posts founded in the earth' – are all present in the settlement at Strøby Toftegård (Fig. 2.2). All these house types are generally regarded as originating in the mid-7th century and being phased out around AD 1100/1150. Houses with outside sloping supports, however, have a narrower dating of AD 900–1100. The same dating pattern is repeated if the longhouses from Strøby Toftegård are held up against the house typology presented by Jørgensen & Eriksen in the publication of the Trabjerg settlement (Jørgensen & Eriksen 1995, 19). Here, the longhouses of Strøby Toftegård fall within especially the types called 'Early Sædding house' and 'Late Sædding house', which yields a dating of, respectively, AD 700–800 and 800–950. The typological studies of houses

thus result in the same overall dating frame as the excavated objects. Because the house typologies describe a gradual development and does not allow for potential regional differences (*cf.* Sindbæk 2008), they are difficult to use with respect to a more precise description of the development of the settlement. It is also worth noting that the longhouses at Strøby Toftegård challenge the existing house chronologies in that for instance the ^{14}C -dating of the great longhouses that have clear sloping support posts dates the houses as early as the mid-7th century (such as House 5), and the houses with Trelleborg-like roof-bearing structures (two sets of roof-bearing posts with large spans between them) are dated to as far back as the 8th century (for instance Houses 29 and K314). It thus seems that a critical assessment of the existing house typologies is needed, although this will not be pursued in the present article.

The stratigraphic dating is based on observations of the vertical and horizontal stratigraphy on the site. The vertical stratigraphy is based on the chronological relations between intercutting features. The horizontal stratigraphy is based on logical deductions about which structures can physically have occupied the same place at the same time. At Strøby Toftegård, there are examples of both vertical and horizontal stratigraphy. In themselves, however, stratigraphic situations do not provide any absolute dates, but they are extremely useful in terms of clarifying the internal chronological relations within the settlement. The specific chronological observations that were made will be introduced during the survey of the individual farm units of the settlement.

Scientific dating was carried out in the form of a range of ^{14}C -datings of selected organic material from archaeological features, postholes and pits. The ^{14}C -dates are used both to date material from selected house structures and to give a general dating frame for the settlement. ^{14}C -dating was done on bone material (sheep/goat or cow) and on macrofossils (charred barley, rye). Charcoal and bones from pig have, however, been avoided in order to lessen the risk of pollution from either the age of the wood itself or from marine fodder in the case of pigs. The material from the houses that has been dated comes, insofar as it has been possible, from the roof-bearing posts, alternatively from wall posts, which would yield the greatest likelihood of agreement between the dated material and the period when the house was in use. In order to strengthen the likelihood of a link between the dated material and a house structure, the aim has been to secure more than one ^{14}C -date for a given house structure (Villumsen 2013). However, it was not possible in all cases to obtain the recommended three dates per house structure (Mikkelsen *et al.* 2016). The house structures that have been dated in this way have not been selected on the basis of any premeditated strategy, but simply from what was possible to do. As the practice of taking systematic soil samples from the house structures in order to find dateable material has only been introduced within the last decade or



Fig. 2.2. House typology and chronology describing the general understanding of the development of the longhouse during the Late Iron Age and the Viking Age (redrawn after Skov 1994, 144, translation by the authors).

so, it is primarily the last three excavation campaigns that have yielded suitable material of this kind. For individual houses that were uncovered during prior excavations, it was therefore necessary to go through the faunal material with a view to locating suitable dating material. From this, an order of priority was established. Subsequently, a number of original soil samples from three of the great longhouses were located in museum archives. These have been subjected to flotation (see Henriksen & Mortensen, Chapter 5), which has resulted in finding charred grains. In Houses 1 and 2, barley, rye and wheat were found, and in House 3, barley and bladderwrack (seaweed) were found which may possibly be used for further dating in the future. Apart from material from house structures, material from a number of pits and cooking pits also has been dated. The

earliest ¹⁴C-date comes from a posthole (A30534) dated to the Pre-Roman Iron Age. It is not possible to place the posthole within a recognised house structure, but it does open up the possibility that there was a settlement on the site already in the Early Iron Age. The youngest ¹⁴C-date comes from one of the great longhouses and comes out at around the 12th century. Material from one house structure (K312) is dated to the 5th or 6th century, but other than that, most of the ¹⁴C-dates fall within the period of AD 650–1000 (Fig. 2.3, Table 2.1).

Taken together, the dates show that the main part of the settlement belongs to the period from the mid-7th century up until around AD 1000. Scattered objects from the Neolithic, Late Bronze Age, Early Iron Age and the beginning of the Late Iron Age reveal that there was some activity at the site

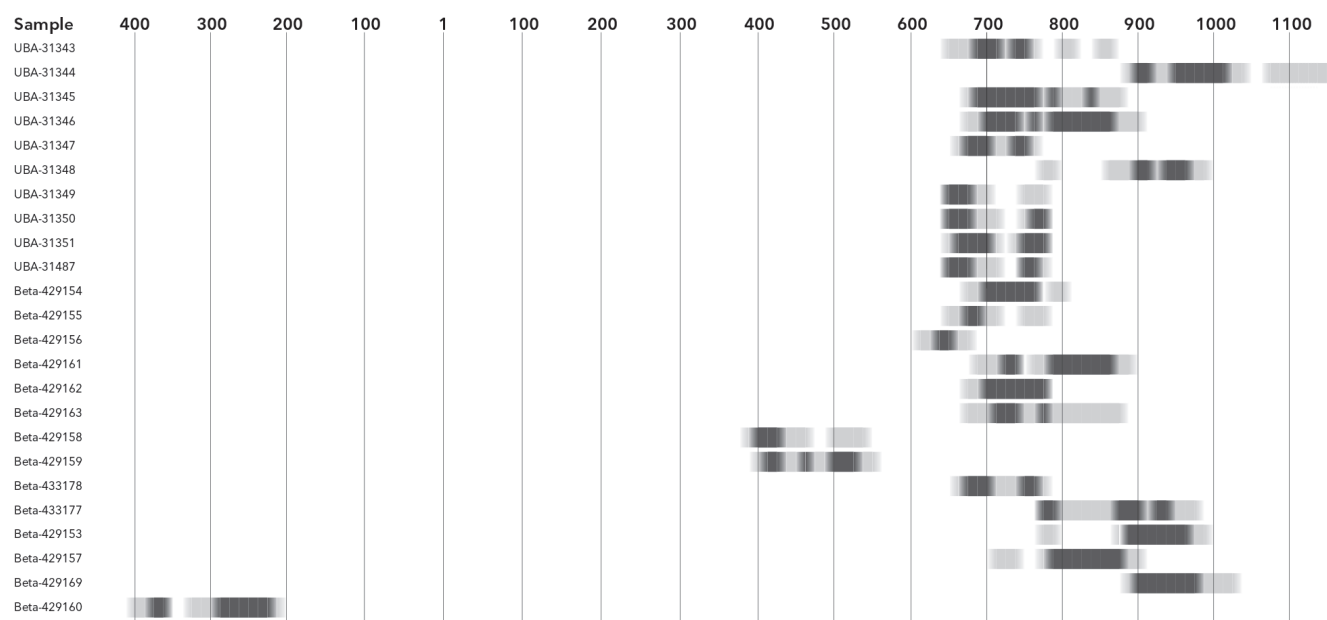


Fig. 2.3. Diagram of ^{14}C -dates from house structures and pits. The dates are shown with both 68% (darker colour) and 95% (lighter colour) probability in the diagram. Illustration: Museum Southeast Denmark.

during earlier times, but the number of objects and features indicates that this was limited and non-continuous activity.

The physical structures of the settlement

When figuring out the structure of a settlement, an obvious thing to look for at first is fencing that may have existed as part of the settlement, because this can be taken as an expression of which structures and features belong together, both chronologically and socially (Hvass 1980, 150–151; Stoumann 1980, 96–97; Carlie & Artursson 2005, 163–164; Mikkelsen 2006, 119–121). Unfortunately, the number of identified fences in the settlement at Strøby Toftegård is limited. There are only two cases of clearly identified fences, both in the south-eastern part of the excavated area. Here is a rectangular enclosure with fence posts that surrounds a number of smaller houses, as well as a fence surrounding the central part of the settlement. The latter of these fences is only very sporadically preserved, but where it can be discerned it reflects the placement of cooking pits and other features.

Given the lack of any further traces of fencing, the house structures necessarily constitute the basis for identifying the structuring of the settlement. In total, 109 longhouses and 14 smaller buildings have been identified within the settlement. ‘Longhouses’ cover in this connection all buildings that are longer than they are wide; ‘smaller buildings’ cover all other types of building constructions as pit houses, four-post structures, etc. The following house structures are regarded as main houses: Houses 1–5, 10–13, 17, 20, 24, 28–29, 47, 50–51, 54–55, 59, 65, 68, 76–77, 86, K215–K216, K316,

K401 and possibly House 57+K403. Interpreting these as main houses is done in a combination of their size and placement, their connections to other houses, their construction and internal sections, and the extent of repair work. Many of these houses are described as ‘complex longhouses’ in the Chapter on the longhouses (see Beck, Chapter 3). In the survey below, it is a conscious choice that the houses interpreted as main houses are used as points of reference for identifying other structures within the settlement. Apart from the main houses, the remaining house structures that have been recognised (longhouses and smaller buildings), pits and other features, as well as the topography of the landscape, are also considered as part of identifying the settlement’s physical structures.

When dividing the settlement into farm units, only a few longhouses remain unlinked to any farm unit (Houses 58, K212, K213, K214, K312, K419 and K423). K312 is dated to the transition between the Late Roman and the Early Germanic Iron Age and it thus represents an older settlement on the site (Beck, Kildetoft Schultz & Tornbjerg, Chapter 1). Already during the excavations, House 58 was interpreted as an older house and continues to be so (Woller 1998, 61). K212, K213 and K214 are likewise interpreted as belonging to an older settlement, although it is not possible to date this more precisely. None of these houses (Houses 58, K212–K214 and K312) have burnt stones in the fill from postholes and, although nuances in the fill can hardly be used as a decisive factor in terms of dating, the occurrence of burnt stone is very common in the majority of the houses that form part of the segmented farm units. Burnt stones – whether placed in the posthole

Table 2.1. All ^{14}C dates from the settlement at Strøby Toftegård.

Feature	Type	SampleID	Material	Radiocarbon age BP	Cal AD 68.3%	Cal AD 95.4%
10204 (P6)	Posthole, house 1	UBA-31343	<i>Bos taurus</i> , vertebra	1283±41	675–724 739–768	656–778 791–827 840–863
10420 (P7)	Posthole, house 2	UBA-31344	<i>Ovis Capra</i> , radius	1046±53	901–921 951–1028	883–1052 1080–1152
10426 (P8)	Posthole, house 2	UBA-31345	<i>Capra/Ovis</i> , tibia	1242±35	688–777 792–803 843–853	680–782 786–878
11714 (P9)	Posthole, house 3	UBA-31346	<i>Ovis aries</i> , radius	1231±46	710–746 764–779 789–871	673–891
10008 (P10)	Posthole, house 3	UBA-31347	<i>Capra/Ovis</i> , costa	1290±31	674–715 743–765	664–770
10670 (P11)	Posthole, house 4	UBA-31348	<i>Capra/Ovis</i> , diaphysis	1117±28	894–929 939–970	779–788 869–995
10747 (P12)	Wall trench, house 4	UBA-31349	<i>Bos taurus</i> , molar	1338±28	653–685	646–713 744–765
10442 (P13)	Posthole, house 5	UBA-31350	<i>Capra/Ovis</i> , molar	1331±33	654–690 750–761	647–722 740–767
10241 (P14)	Posthole, house 5	UBA-31351	<i>Bos taurus</i> , metacarpus	1307±31	664–695 700–710 745–764	657–728 737–769
11628 (P16)	Posthole, house 29	UBA-31487	<i>Bos taurus</i> , molar	1330±31	655–690 751–760	648–720 741–766
20294 (P38)	Posthole, house K216	Beta-429154	Oat	1260±30	685–770	670–775 790–800
20408 (P52)	Posthole, house K216	Beta-429155	Barley	1330±30	660–680	650–715 745–765
20413 (P54)	Posthole, house K216	Beta-429156	Barley	1390±30	640–660	610–670
30679 (P168)	Posthole, house K314	Beta-429161	Barley	1220±30	725–740 770–780 790–870	690–750 760–885
30665 (P163)	Posthole, house K314	Beta-429162	Rye	1270±30	680–770	670–775
30687 (P170)	Posthole, house K314	Beta-429163	Rye	1240±30	715–745 765–775	680–880
30536 (P124)	Posthole, K312	Beta-429158	Barley	1620± 30	400–425	385–473 483–535
31050 (P211)	Posthole, K312	Beta-429159	Barley	1600±30	415–435 460–465 490–535	395–540
30565 (P145)	Layer 4 in pit	Beta-433178	Wheat	1300±30	670–715 745–765	660–770
31003 (P199)	Layer 26 in pit	Beta-433177	Barley	1160± 30	780–790 870–895 925–940	775–970
20403 (P50)	Layer 3-4 in cooking pit	Beta-429153	Barley	1120±30	890–975	780–785 880–990
20437 (P68)	Layer 2 in cooking pit	Beta-429157	Barley	1210± 30	770–880	715–745 765–890
20435 (P66)	Layer 2 in cooking pit	Beta-429169	Twig	1110±30	895–980	885–995
30534 (P122)	Posthole	Beta-429160	Barley	2250±30	380–355 cal BC 285–230 cal BC	395–345 cal BC 320–205 cal BC

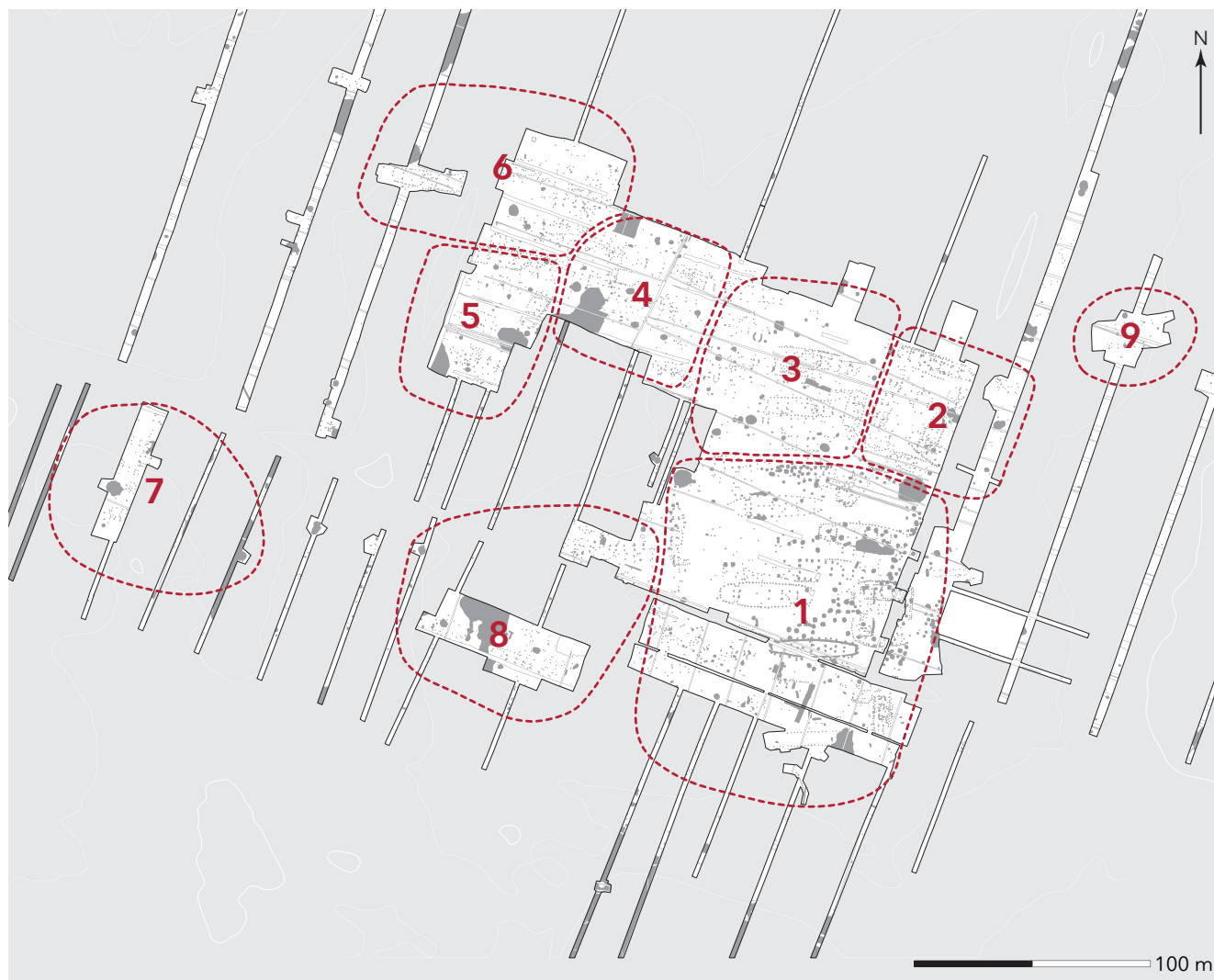


Fig. 2.4. Plan of the farm units, Farm 1 to 9, identified in the Late Iron Age settlement at Strøby Toftegård. Illustration: Museum Southeast Denmark.

fill deliberately or by accident – may thus be a guide to how the houses belong together. Their absence may mean that the house was built and abandoned prior to the large Late Iron Age settlement being established. At the present time, K419 and K423 cannot be linked directly to the settlement. They are both located in the western part of the excavated area, which was only investigated by means of trial trenches. K423 does have burnt stones in the fill of its postholes and is thus likely linked to the settlement or, alternatively, to the period following it. The presence of houses and pits in the western part of the excavated area may indicate that there is yet another farm unit there.

In terms of excavation, the settlement has not been completely uncovered. In total, 46,020 m² out of the about 160,000 m² that the settlement is thought to originally have covered have been excavated. The excavated sections are thus in some cases a limiting factor when it comes to

clarifying the exact organisation and structure of the settlement. The assessment nonetheless is that the excavated area is sufficient for determining the general nature of the settlement. Landscape-wise, the settlement is bounded by natural wetlands to the east, south and south-west and these define the flat plateau on which the settlement is located. However, the settlement has not yet been definitively delimited towards the north and west.

The argument in what follows is that the settlement at Strøby Toftegård consists of at least nine units, preliminarily referred to as ‘farm units’ for lack of a better term (Fig. 2.4). In the present context, the term ‘farm’ is used for an analytical unit that describes a physical relationship between buildings, features, featureless areas and possible fences. However, this should not be understood in such a way that each ‘farm’ was necessarily an independent production unit. We still know too little about the original organisation of

the settlement for that. The limits of each farm unit that have been drawn on the excavation plan must not be seen as static, but rather as indications of relationship. The concrete delimitations may well have changed during the life of the individual farm, and the analytical units into which the settlement is divided do not necessarily concur with how they functioned in everyday life. Thus, the delimitations should be seen as more fluid and dynamic than they look on a drawing. Below, each of the identified farm units will be discussed in terms of placement and boundaries, house structures and connections, areas of activity and artefacts.

Farm 1

Farm 1 is located in the south-eastern part of the excavated area, on and around a small, natural elevation which constitutes the highest point on the flat plateau that the settlement occupies. Farm 1 lies south of Farms 2 and 3 and north-east of Farm 8 (see Fig. 2.4). Farm 1 has been separated off on the basis of a relatively clear boundary towards the rest of the settlement to the north, made up of a belt of cooking pits and a narrow featureless area that runs along the cooking pits. Towards the north and west, the farm unit has been uncovered by means of the excavated area or trial trenches. Towards the south and east, the farm has not been completely uncovered, partly because of a protected dike that runs across the eastern part of the farm. However, trial trenches reveal that, although there was some activity in these areas, there are no further houses here.

Houses and features within Farm 1

A total of 23 longhouses are linked to Farm 1 (Houses 1, 2, 3, 4, 5, 6, 7, 8, 9, 23, 40, 46, 79, 83, 90, 91, K201, K301, K302, K303, K304, K305 and K311) (Fig. 2.5). It is possible that also Houses 20 and 28 (two phases of the same house) belong to Farm 1, although in principle they are located within Farm 2 and thus outside the clear demarcation of Farm 1. Due to their location, they will be treated with Farm 2 and their affiliation will be discussed then. At Farm 1, Houses 1–5 are interpreted as main houses.

Longhouses 1–5 stand out due to their size of 35–39.5 m in length, which makes them the largest houses within the entire settlement. At the same time, the houses appear well built and with special architectural details, such as sloping support posts, stone-filled wall ditches and middle posts (see also Beck, Chapter 3). These five longhouses are centrally located within the farm unit and are oriented east–west. The remaining longhouses have more varied natures and sizes (9.3–23 m). Five of the houses (Houses 7–9 and 90–91) are placed within a rectangular enclosure which in all probability is linked to Farm 1. It has previously been discussed whether the enclosure with the longhouses represents an earlier farm, but because of the orientation of the complex, which mirrors that of the five great longhouses,

it is likely that the enclosure is an integrated part of Farm 1 (Tornbjerg 1998, 225–226). Moreover, burnt stones were found in several postholes of the houses, and this trait is also characteristic of the other longhouses that are part of the Late Iron Age settlement (Beck, Chapter 3). Finally, two of the houses (Houses 9 and 90) have architectural features such as middle posts and wall ditches that associate them with the architecture of the five great longhouses. The smaller longhouses are oriented either north–south (Houses 9, 40, 79, 83, 90, K301 and K303–K305) or east–west (Houses 6, 7, 8, 91, K302 and K311). House 23, however, is oriented east/north-east to west/south-west, so that it to a greater extent follows the fence (not preserved) that surrounded Farm 1, and it is possible that the house was part of the fence or located right onto it. In this way, the smaller longhouses are more scattered than the great longhouses, being situated either perpendicular to them or on the outskirts of Farm 1. Generally, however, they seem to have been placed in relation to the great longhouses. The enclosure has also been positioned so that it lies almost perpendicular to two of the great longhouses (Houses 4 and 5). None of the ‘smaller buildings’ can be linked with certainty to Farm 1.

The pits related to Farm 1 are mainly round cooking pits that are situated in a belt around the farm unit. The pits are very characteristic because of their high contents of charcoal and burnt stones, and they must stem from an activity associated specifically with the great longhouses. There are, on the other hand, very few other pits within Farm 1’s area. Most of these likewise have a few fire-cracked stones in their fill and can thus be linked to the settlement of the Late Iron Age, but their function is as yet unknown (Kildetoft Schultz, Chapter 4). Only on the outskirts of Farm 1 are there some of the deep pits that are otherwise characteristic of the remaining settlement (A20009, A30166, A30548, A30565). Additionally, the wells A13984 and A13996 are also linked to Farm 1. Pits and wells are described in more detail by Kildetoft Schultz in Chapter 4. Between the great longhouses there are several areas that are almost without features and that may have served as a kind of farmyard.

Artificially constructed plateau

The five great longhouses held a dominant position within Farm 1, as is emphasised by the fact that the archaeological material has revealed indications that at least one of the great houses (House 5) may have been erected on an artificially constructed plateau. Artificial plateaus underneath longhouses are known from contemporary settlements, such as Lejre (Christensen 2015), Lunda (Skjellberg 2008) and Gamla Uppsala (Ljungqvist & Frölund 2015). In the following, the arguments for a possible constructed plateau underneath House 5 will be presented.

In the excavation reports, the topsoil around House 5 is described as more complex than usual. There are descriptions of how the topsoil has an actual ‘extra horizon’, which



Fig. 2.5. Farm 1 with all house sites marked. On the map, entrances are marked with triangles. All pits are highlighted. The great majority of these are cooking pits, but there are also a few deep pits and wells in between. Illustration: Museum Southeast Denmark.

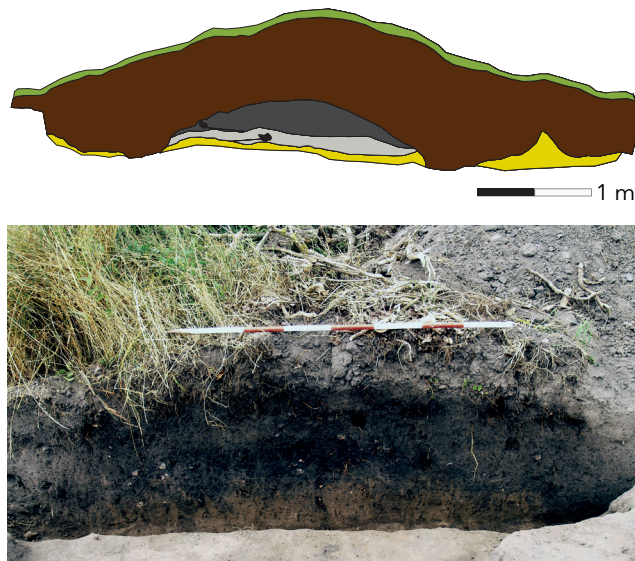


Fig. 2.6. Drawing of one of the sections through the protected dike; the southern profile of section A and a photo of the same profile. The possible cultural layer can be discerned as a darker layer on top of the original topsoil (which is the layer just above the subsoil). Colour code: light yellow brown = subsoil; light grey = original topsoil; dark grey = cultural layer with a high concentration of charcoal and burnt stones; dark brown = dike and dike ditches, black = burnt stones. Illustration: Museum Southeast Denmark.

may be caused by soil having been added to the site (Woller 1998, 7, 14, 27; Beck 2013, 17). The character of the various horizons within the topsoil was therefore specifically investigated during the excavations in 2013, when three sections through a protected dike, that runs across the eastern part of Farm 1, were made. The expectation was that the layers of soil underneath this dike would be relatively undisturbed by modern, mechanical cultivation. In the profiles of all three cross-sections, two horizons were visible within the original topsoil. In the lower layer, which often contains finds – just above the subsoil – the burnt stones were practically absent. In the topmost of the ‘original’ topsoil horizons, on the other hand, burnt stones, charcoal and other cultural material were observed (Fig. 2.6). The bottom layer may be interpreted as the original topsoil and the layer on top of it, with the burnt stones, may be interpreted as the remains of a possible plateau. Although both layers could be separated out, they were not necessarily in and of themselves convincing as the remains of a plateau.

The argument for an artificially constructed plateau, however, is strengthened when considered in relation to observations made during the excavation of Farm 1. The features of House 5 are described in the report as difficult to discern due to the relatively sterile layer of old topsoil through which they were dug (Woller 1998, 27). An observation which is not made in relation to any of the other houses.

Moreover, on the southern side of House 1 and on top of House 6, just north of House 5, a cultural layer as thick as 12 cm is described as consisting of settlement material with a high content of charcoal and some burnt stones (A10116) (Woller 1998, 14, 29). On the basis of this description, the cultural layer may be interpreted as the same layer as the uppermost horizon that was discerned in the dike profile. The postholes of House 1 have been dug through the cultural layer and are thus younger, while postholes of House 6 are older than the cultural layer. Thus, the cultural layer must have come after House 6 ceased to be in use. With a bit of optimism, the sterile layer of topsoil may be interpreted as the original topsoil of the site, and the darker cultural layer can be seen as added topsoil from an artificially built-up plateau, which has evened out over time.

If we then take a close look at House 5, it emerges that there are two rows of densely placed features around House 5 that have not previously been plausibly explained (Fig. 2.7). It is clear that the outer rows are positioned in relation to the shape of the house and so their connection to it must be direct, but they are located on the ‘wrong’ side of the sloping support posts to be wall posts, nor do they seem to be replacements of the sloping support posts. It must be something else, and it is possible that they originate from a row of densely placed posts – or stones – erected in order to keep the soil of an artificially made plateau in place, in the same way as stones were used to hold together the artificially constructed plateau at Mysselhøjgård (Christensen 2015, 71–73, 121) and Lunda (Skjølberg 2008, 24).

Unfortunately, no attention was paid to this phenomenon during excavation, and so it is no longer possible to determine more precisely how such a plateau may have been constructed, nor how high it may originally have been. The longhouses are as a rule located on the highest point within the area, but the fact that an artificially created plateau may have been made on the site stresses the notion that the five great longhouses were deliberately erected on a high point in the landscape. In this way, they may well have been dominant not just within Farm 1, but the whole settlement.

The enclosure between Houses 4 and 5

Finds from, for example, Tissø, Järrestad and Uppåkra suggest that actual cult houses were erected at some magnate farms in the Late Iron Age (Jørgensen 2002; Larsson & Lenntorp 2004; Söderberg 2005). These are often enclosed, and inside the enclosure are buildings of a special nature. Additionally, finds of an extraordinary character are usually made in connection with these. With a view to this phenomenon, it seems obvious to take a closer look at the enclosed area between Houses 4 and 5 and to discuss the interpretation of it (Fig. 2.8).

The enclosure itself is made up of densely placed posts. None of the postholes are particularly deep or wide, so there are no signs that the fence was especially strong or high.

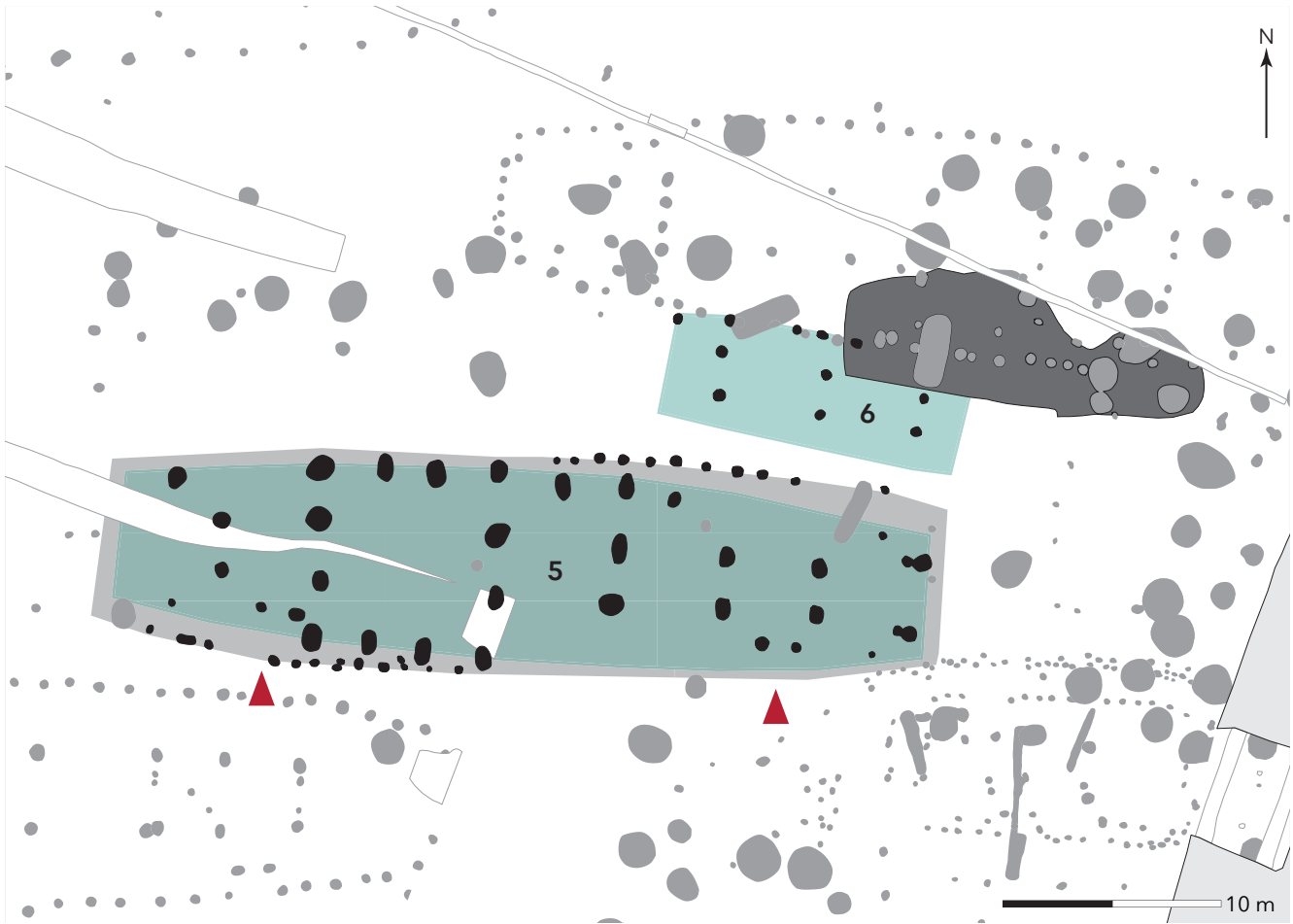


Fig. 2.7. House 5 with the possible plateau indicated (grey marking underneath House 5) as well as the row of posts or stones (black) that marks the edge of the possible plateau. North of House 5 is House 6 and the mentioned cultural layer (dark grey) that partially covers House 6. The cultural layer (A10116) is probably made up of remains of the artificial plateau. Entrances are marked with red triangles. Illustration: Museum Southeast Denmark.

Rather, the area is marked off, but it is not a palisade. The entrance through the fence is not very clear, but it must have been placed on the western side, facing the rest of Farm 1's houses. The fence was repaired and replaced, which shows that the enclosure existed through a sustained period of time. Inside the fence there are five house structures (Houses 7, 8, 9, 90 and 91). These houses are small in comparison with the remaining buildings at Farm 1 (between 9.3 and 14 m) and they do not appear to be inhabited houses. Houses 7 and 91 are sturdily built in comparison with the other small longhouses, and the structure of Houses 90 and 91 shares traits with the architecture of the great longhouses (wall ditches and middle posts), but, other than that, nothing separates the houses within the little enclosure from the remaining small longhouses of the settlement. We are probably dealing with three phases of buildings within the enclosure (see also sections below), where House 8 constitutes an independent phase, while Houses 7 and 90 and House 91 and 9, respectively, each constitute a phase. Judging by the character and

preservation of the features, as well as the placement of the houses, it seems obvious that House 8 must be the oldest one, followed by House 91 and House 9, and finally Houses 7 and 90. This chronological development, however, cannot be confirmed at the present point in time.

Across the enclosed area several of the large, round cooking pits that characterise Farm 1 are located. Judging by the stratigraphy, these seem to have been added at a later point than the enclosure. Other than these, there are not many pits or features inside the enclosure, and none of them can be definitely linked to the use of the enclosed houses. The pits all have the character of being ordinary settlement pits, with layers of rubbish containing burnt clay and charcoal. None of the pits have traits that indicate special usage. No amulets or other special artefacts (such as *guldgubber*; in English: gold foil figures) were found that may be linked to rituals carried out in the buildings or the enclosure. Nor have any extraordinary objects been found that may have constituted actual sacrifices in the same way as do finds

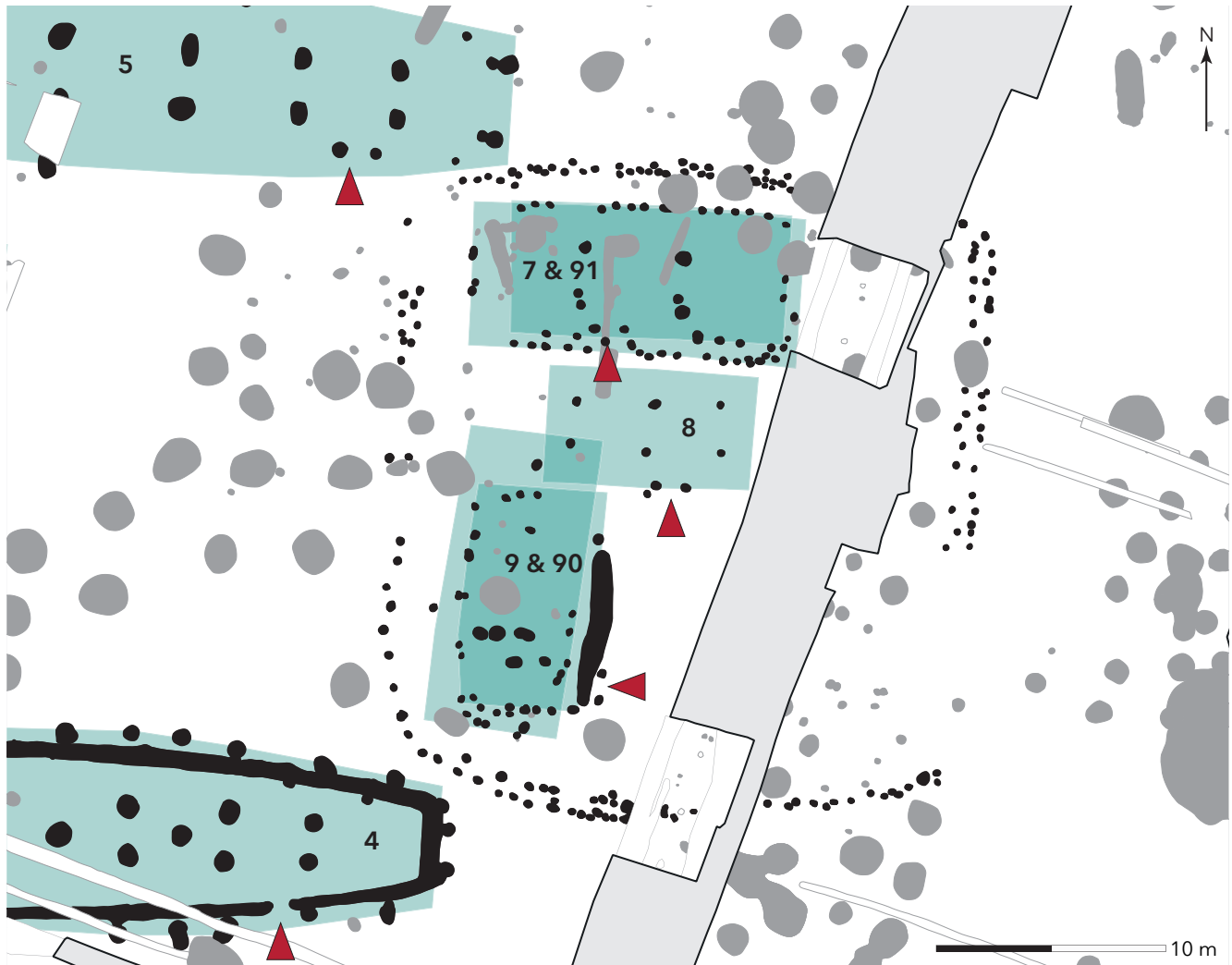


Fig. 2.8. The enclosure between House 4 and House 5. All house sites within the enclosure are indicated. Entrances are marked with red triangles. Illustration: Museum Southeast Denmark.

from, for example, the cult house at Uppåkra (Larsson & Lenntorp 2004).

Thus, neither the architecture nor the features or finds point directly to a ritual use of the buildings or the enclosure. Even so, the enclosed area and the activities that took place here may still have had a link to pre-Christian cult. Judging by the few finds that have been recovered from the features, metalwork and textile work may have been carried out within the enclosure. In each of Houses 9 and 90, a loom weight was found, and part of a loom weight was found also in a small pit (A10115) (though this is stratigraphically later than House 7). Another pit from within the enclosure (A10471) yielded a piece of a casting mould for a beak brooch. In the research pertaining to Birka it has been pointed out that, in the Late Iron Age and the Viking Age, there was a close connection between certain crafts (including bronze casting and textile production) and the belief in

special, magical powers (Hed Jakobsson 2003). These crafts represent a transformation of raw materials where the material goes from, for instance, a fluid to a solid form or from loose fibres to woven cloth. The very processes involved in such crafts may thus, to those who did not know how they were done, have been surrounded by a certain mystique and supernatural powers. In this way, the enclosure may be a symbol of the magnate's control of particular, ritually loaded crafts, which could only be carried out here. The fence may have functioned as a control mechanism, ensuring that only a few selected individuals had access to the knowledge and magic involved in the processes. Or perhaps the fence was as important in terms of controlling the forces that were let loose during the processes, ensuring that they did not escape into the rest of the settlement? At any rate, the notion that the enclosed area fulfilled a special function closely linked to Farm 1's role in the settlement at large cannot be rejected.

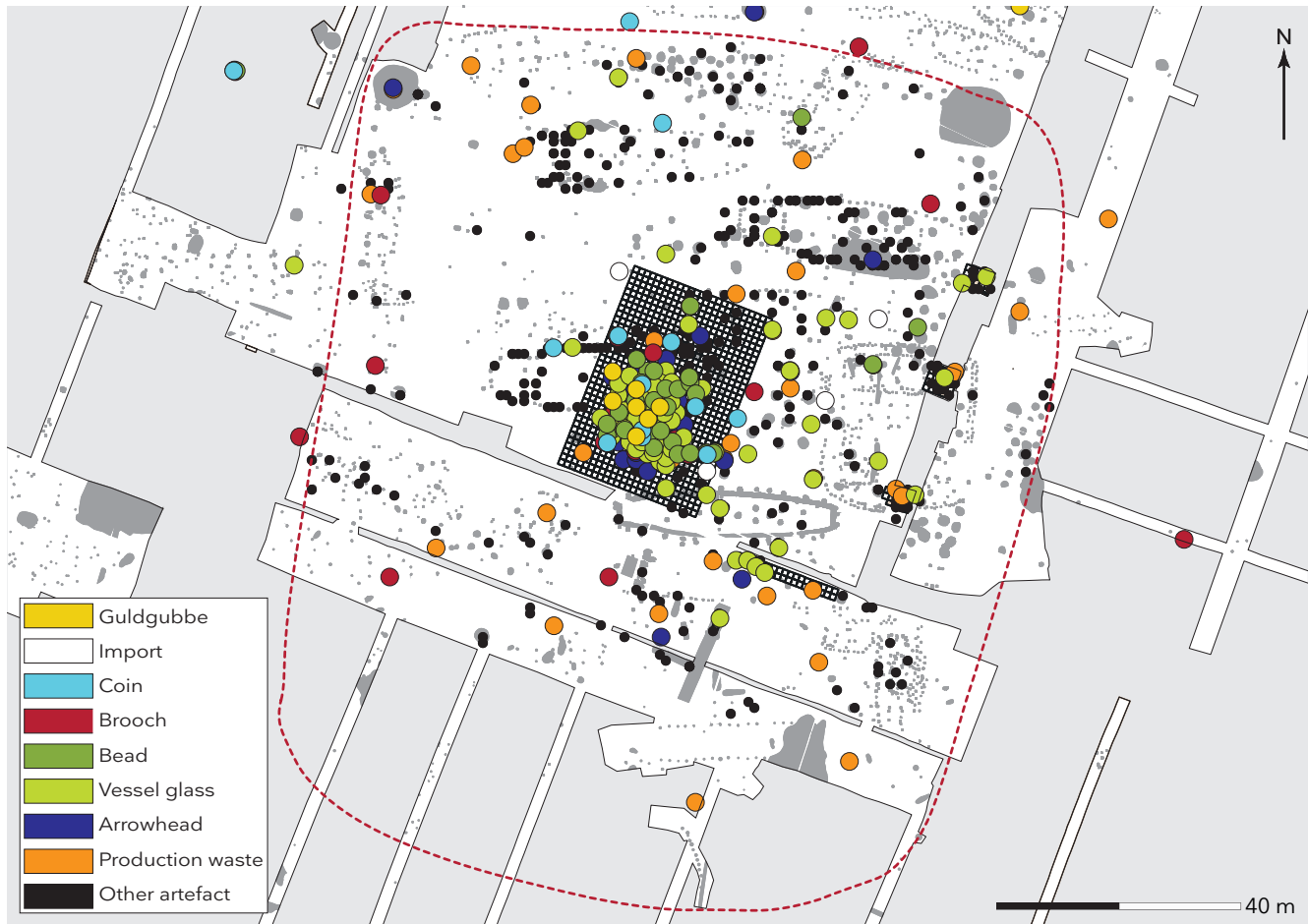


Fig. 2.9. Farm 1 with all features and finds. One mark may refer to several objects, if they were found in the same feature. The area with squares in the middle of the plan marks the area where the plough soil has been sieved in 1×1 m trenches. The distribution of objects reflects the intensively investigated area where the plough soil has been sieved, as well as the excavated postholes and pits. Illustration: Museum Southeast Denmark.

Objects from Farm 1

Within Farm 1, more objects were found than at any of the other farm units. In part, this has to do with the intensive sieving of plough soil that was done in this specific area. However, similar sieving was also done for several other areas of the site, but with only a limited number of finds. It is therefore a fair assessment that the number of finds pertaining to Farm 1 is greater compared to the surrounding farm units. Of the 918 item numbers linked to Farm 1, half were found in features while the rest are stray finds from the plough soil, primarily from soil-sieving trenches. Compared to the surrounding farms, the artefacts from Farm 1 include a higher number of special objects (for instance *guldgubber*), imported items (such as Insular hanging bowls and coins), silver bars and hacksilver, as well as arrowheads (Fig. 2.9). Also the number of beads and pieces of vessel glass is much higher here than for the other farm units. Items such as spindle whorls and loom weights are also represented within the farm, as are

fragments of casting moulds, slag, whetstones, quernstones, and pottery.

Of the many house structures, primarily the postholes belonging to the five great longhouses have yielded finds. In postholes from House 1 were found a Baltic Ware sherd (x10193) and a bronze spiral (cat.no. 627) dating from the Viking Age, as well as a piece of greenish glass (x374). Other than this, several postholes yielded faunal remains and nondescript settlement pottery, as well as burnt clay, with one such piece seemingly carrying imprints of withes. There are generally many finds from the postholes of House 2, but these mainly comprise faunal material, burnt clay, nondescript settlement pottery and a single rim sherd of Baltic Ware (x10354). One posthole yielded a *guldgubbe* (cat.no. 7). In other postholes were found a dirham minted in AD 770 (x411), an arrowhead (cat.no. 277), a bead of fossil coral (x436) and a glass sherd (x434). In the postholes of House 3 were found, apart from settlement pottery and faunal material, a glass bead (x335), raw garnets (x964), a piece of bronze

sheet (x332), slag (cat.no. 389) and some small, indeterminate iron objects. Finds from postholes belonging to House 4 include, beyond faunal material and nondescript pottery, a single piece of vessel glass (x474). From House 5 has come a generally large and varied number of finds, including rather a lot of pieces of burnt clay, found in postholes from the roof-supporting structure of the house as well as postholes belonging to the walls. In four postholes from the roof-bearing structure, fragments of vessel glass were found, and, in one of the postholes (A10289), four pieces of glass (x381, x391, x401, x415) of which three are probably from the same glass. The same posthole also yielded a droplet of copper alloy (cat. no. 336), as well as several pieces of a U-shaped bronze tube, which may be the rim of a bronze vessel (cat.nos 185–188). The pottery found in the postholes is predominantly undecorated settlement pottery, but one sherd is ornamented with round stamps featuring grid ornamentation and wheel crosses (x10335), dateable to both the Late Germanic Iron Age and the Viking Age (Kildetoft Schultz, Chapter 8). Moreover, a posthole in the northern wall of the house (A10257) yielded a fragment of a soapstone vessel (x376). Normally, soapstone vessels are dated to the late part of the Viking Age. However, the postholes belonging to the wall are described as difficult to delimit, and the soapstone sherd may have ended up in the posthole as a result of animal activity (Woller 1998, 29). Among the smaller longhouses, a loom weight (cat.no. 723) was found in House 9, and in House 91 a loom weight (cat. no. 720), a glass sherd (x421), an iron fitting (cat.no. 660) and a glass bead (x470). Both houses are located within the little enclosure between Houses 4 and 5. The remaining houses either yielded no finds (despite sieving) or only few finds of bones and/or nondescript pottery sherds (Houses 6, 79, 83, K301, K305).

In brief, apart from bone fragments and nondescript settlement pottery, the finds from the cooking pits also include a number of metal objects, for instance fragments of Insular hanging bowls and fragments of keys, as well as a large number of pieces of vessel glass and three glass beads. No coins or brooches were found in the cooking pits and only one arrowhead. This is somewhat surprising, considering how well-represented these find categories are in the plough soil covering Farm 1 (see moreover Kildetoft Schultz, Chapter 8).

From Farm 1, 427 m² of plough soil has been sieved, and this has yielded a large number of finds (Table 2.2). The soil-sieving trenches are primarily located over House 2 and in the area between Houses 2 and 4 (Fig. 2.9). In five different soil-sieving trenches immediately south of House 2, five *guldgubber* (cat.nos 1–2 and 4–6) were found, all of them *doublegubber*. West of House 2, a soil-sieving trench threw up a silver pendant shaped as a Thor's hammer (cat.no. 109). Jewellery is moreover represented by bird brooches (cat.nos 23, 25, 26, 28, 32), rectangular plate brooches (cat. nos 42, 45), trefoil brooches (cat.nos 67, 76), oval brooches

(cat.nos 81, 82, 84, 92, 99), circular brooches (cat.nos 102, 103) and a thin piece of gold sheet with inlaid bands of interlacing and knotwork that may stem from a disc-on-bow brooch (cat.no. 177). Of the 27 beads that were found, 23 are glass, while three are rock crystal and one is carnelian (see Table 2.2 for catalogue numbers). Only a single fragment of a comb was found in the soil-sieving trenches. Hacksilver comprises eight pieces, for example hacked Permian arm rings and two silver bars (cat.nos 294–298, 302–305 and 307). Additionally, 14 coins were found (Table 2.2), one of which is copper alloy and probably from the Middle Ages, while the rest are Arabic silver coins. Weapons are strongly represented in the shape of arrowheads, of which 34 were found in soil-sieving trenches (see Table 2.2 for catalogue numbers). Furthermore, three spurs (cat.nos 227, 231, 232), though these cannot be unequivocally dated to the Late Iron Age but may be both earlier and later. Compared to arrowheads, knives are sparingly represented in the form of three iron knives (cat.nos 445, 457, 458), while 14 whetstones were found. All 72 sherds of vessel glass (Table 2.2), one piece of raw glass (x259) and three raw garnets (x318, x340, x365) were found in soil-sieving trenches at Farm 1. Only two spindle whorls (cat.nos 703, 704) and no loom weights were found in the soil-sieving trenches. One soil-sieving trench also yielded a roast fork (cat.no. 469) and an iron sickle (cat. no. 473), as well as several fragments of iron and bronze fittings. Production is represented by a few metal droplets and several fragments of slag (see Table 2.2). The pottery found in the soil-sieving trenches includes both nondescript settlement pottery and decorated Baltic Ware.

The remaining stray finds from the plough soil of Farm 1 comprise almost 100 items that were either registered during the excavations or which can otherwise be linked to this farm unit (if for example the artefact was found in a pile of soil from the excavations in 1996). Some of these finds were made in connection with the extensive metal-detector surveys at the site. A fragment of a double *guldgubbe* was found on the ground surface south of House 2 (cat.no. 7). Jewellery is represented by brooches from primarily the Viking Age (cat. nos 67, 76, 81, 94, 102, 180), but also three brooches from the Germanic Iron Age (cat.nos 28, 32, 42) and a bow brooch (cat. no. 14) were found at Farm 1. Likewise a Continental strap-end fitting (cat.no. 152) that has been reworked into a pendant (Baastrup, this publication article 7). Also several copper-alloy fittings were found, but glass objects are sparsely represented as stray finds, although a large piece of the bottom of a claw beaker was found (x375). In total, only five arrowheads were discovered as stray finds at Farm 1. This may seem a little odd since the sieving of soil from that same area produced a total of 30 arrowheads. This may be because detectorists often ignore iron artefacts when they search fields and other areas. Other than this, the inventory consists of casting sprues, slags, melted lumps of lead and bronze lumps (Table 2.2), as well as an iron roast fork (cat.no. 470).

Table 2.2. Within Farm 1 were found a sizeable number of coins, arrowheads, beads and sherds of glass, especially from the plough soil in the soil-sieving trenches. Item numbers in bold were found in features, while those in italics were found using metal detectors. The rest were found in connection with the sieving of plough soil (catalogue numbers are used for arrowheads, knives, production and metal waste).

Coins	X2, x3, x7, x13, x18, x29, x30, x31, x35, x81, x132, x135, x218, x219, x271, x380, x411 , x440
Arrowheads	236, 328, 239, 240, 241 , 242, 243, 244, 245, 246, 247, 248, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 264, 265, 266, 267, 268, 269, 270, 271, 274 , 275, 276, 277 , 280, 281 , 282 , 284, 288, 289, 290, 291, 292
Pearls	x50 , x52 , x59 , x63, x67, x73, x128, x131, x134 , x136, x137, x145, x146, x163, x171, x187, x196, x244, x251, x252, x272, x295, x311, x315, x322, x329 , x335 , x354, x355, x357, x362, x364, x366 , x367, x423 , x424 , x436 , x470 , x649
Glass sherds	X66, x70, x74, x75, x78, x106, x125 , x126 , x129, x133, x139, x153, x154, x155 , x156 , x157, x158, x159, x160, x164, x166, x184, x188, x189, x190, x191, x192, x194, x195, x207, x210, x211, x212, x213, x231, x234, x235, x236, x239, x260, x261, x264, x269, x293, x294, x296, x297, x299, x300, x303, x308, x309, x312, x313, x314, x317, x323, x326 , x334 , x350, x351, x352, x353, x359 , x371, x372 , x373, x374 , x381 , x383 , x384 , x385 , x386 , x387 , x388 , 389 , x390, x391 , x401 , x410 , x414 , x415 , x417 , x418 , x420 , x421 , x426 , x427 , x428 , x429 , x430 , x431 , x453 , x471 , x472 , x473 , x474 , x475 , x476 , x477 , x478 , x479 , x480 , x524 , x562, x688 , x705, x1068, x1069, x1070, x1071, x1075, x1076, x1079 , x1080 , x1081, x1243, x1245, x1248, x1251
Knives	18 , 25, 422 , 423, 424, 437 , 445, 446 , 451, 455 , 456, 457, 458, 461
Production and metal waste	336 , 337, 338, 339, 340, 341, 342, 345, 347, 350, 352, 356, 361, 368, 371, 372, 373 , 374 , 376, 378, 380, 381, 382 , 383 , 384 , 389 , 394, 396, 398, 401

Thus, the inventory from postholes, pits, soil-sieving trenches and stray finds comprise varied material, which, apart from ordinary settlement finds, includes special objects such as *guldgubber*, a Thor's hammer, Arabic silver coins, hacksilver, silver bars, imported goods in the form of Insular hanging bowls and Continental silver fittings, as well as glass beads and sherds, a large number of jewellery items and fragments from the Later Germanic Iron Age and the Viking Age, and a large amount of weapons in the shape of arrowheads. To this can be added production-related finds such as casting moulds, casting sprues, a mould (for a circular brooch), as well as metal that has the appearance of waste (bronze lumps), textile tools, remnants of bead production and hammerscale (from pit A30565).

The dating and development of Farm 1

The dated material from Farm 1 covers the time period of AD 650–1000 and indicates that the farm unit existed throughout the entire lifespan of the settlement. A ¹⁴C-date from House 1 places this house between AD 656 and 863. In light of the finds of Baltic Ware and a bronze spiral, a dating in the latter half of this period seems more probable. Two ¹⁴C-dates from House 2 span, respectively, the earlier part (AD 680–878, sample UBA-31343) and the latter part (AD 883–1152, sample UBA-31344) of the period during which the site was in use. The discovery of a *guldgubbe* may draw the dating of the house further back in time, since *guldgubber* are traditionally dated to the Germanic Iron Age. However, as is argued elsewhere (see Baastруп, Chapter 7), it is possible that the period during which *guldgubber* were used ought to be extended so that it also includes the Viking Age. The finds of a dirham and an arrowhead in the house suggests that the dating of the

house should be narrowed down to the Viking Age. Two ¹⁴C-dates from House 3 cover the periods of AD 673–891 and AD 664–770, respectively. The glass bead x335 is of a type that occurs throughout the entire 8th century at the market in Ribe (Sode, Chapter 10). Two ¹⁴C-dates from House 4 fall within the respective periods of AD 646–713/744–765 and AD 779–788/869–995, but none of the finds from the house are able to produce a more precise dating. Two ¹⁴C-dates from House 5 cover the respective periods of 647–722/740–767 and 657–728/737–769. These dates together with finds of stamp-ornamented pottery point in the direction of an early date for the house – likely the first great longhouse of the farm unit. However, the find of fragments of a soapstone vessel speaks against an early dating, but, as was argued earlier, this may be later material that interferes. None of the other houses have been dated on the basis of scientific samples or artefacts. Moreover, three of the round cooking pits located around Farm 1 have been dated to, respectively, AD 780–785/880–990 (Beta-429153), AD 715–745/765–890 (Beta-429157) and AD 885–995 (Beta-429169). The dates suggest that the activities pertaining to the cooking pits took place through most of the settlement's lifespan. There is, furthermore, a date from the deep pit A30565, AD 660–770 (Beta-433178), which places it in the early part of the history of the farm. Typologically, the architecture fits into the Late Iron Age given traits such as curved walls, sloping support posts and varying distances between the roof-bearing posts, which result in large, coherent rooms. The stylistic traits of individual great longhouses, however, are not sufficiently different to establish a chronology internally among them. There are nonetheless specific similarities of construction in Houses 1 and 2 on the one hand and Houses 3 and 4 on

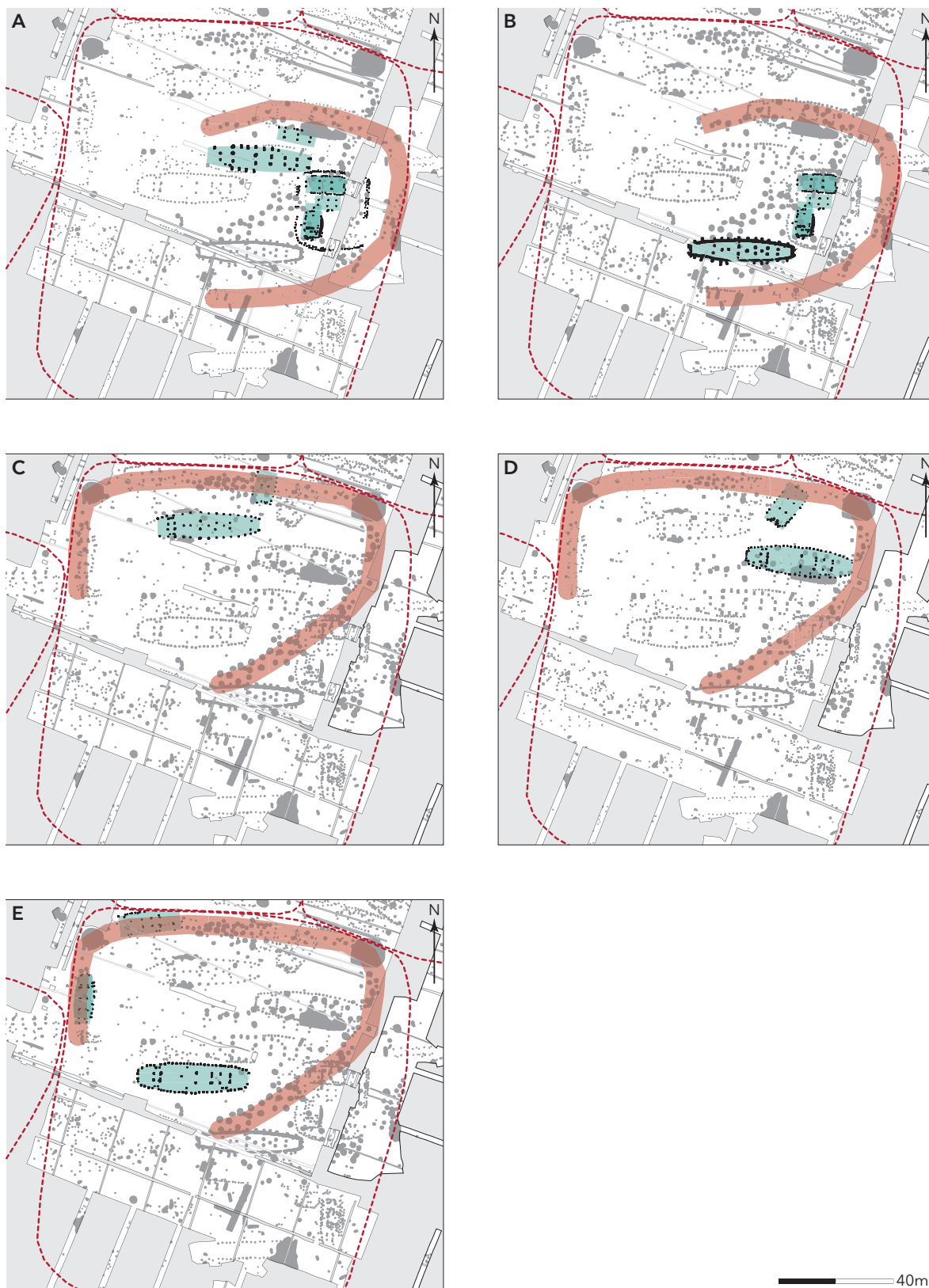


Fig. 2.10. Interpretation of the development of Farm 1. The cooking pits can be divided into two main courses, an early phase (A and B) and a later phase (C–E). The two phases have been indicated on the plans. However, the line must not be read as definitive, since it only depicts an approximation. Illustration: Museum Southeast Denmark.

the other that suggest a direct chronological relationship between these.

Stratigraphic observations, too, can reveal things about the development of Farm 1. Starting with the great longhouses, only Houses 1 and 4 have direct stratigraphical links to other features. Postholes belonging to Houses 1 and 4 intersect and are themselves intersected by cooking pits, which shows that neither House 1 nor House 4 can be the earliest house on this site. The water-rolled stones in the postholes of House 2 render it likely that House 2 was built after House 4 (which was covered with water-rolled stones after it was demolished, see Beck, Chapter 3). The stratigraphic relationship between House 1 and House 6 shows that these two houses cannot have been in place at the same time, and that House 6 is the older one of the two. The fill in the postholes of House 6, incidentally, fits with the cultural layer at that place, which has arisen with the demolition of House 5. Houses 5 and 6 were therefore probably demolished around the same time. House 8 cannot have been in place at the same time as House 7/91 and House 9/90, and K302 cannot have been in place at the same time as K303/K305 and K304. Several of the smaller longhouses have two phases of the same house. This pertains to Houses 79 and 83, with House 83 being the older one. It also pertains to Houses 7 and 91, with House 91 being the older one, Houses 9 and 90, with House 9 probably being the older one, and, finally, K303 and K305, with K305 being the older one. The cooking pits have stratigraphic links to Houses 7 and 91 and to the enclosure, with the enclosure and the houses being older than the cooking pits. House 40 is likewise older than the cooking pits, whereas the cooking pits are older than Houses 79 and 83.

It therefore appears that the five great longhouses succeed one another chronologically, possibly with some overlap in time (Fig. 2.10). House 5 seems to be the earliest and was probably erected on an artificially made plateau, as the first great longhouse at the site. House 6 can be linked to House 5. It is possible that the enclosure together with some of the smaller longhouses were built while House 5 was in use. At least, the enclosure respects the house and seems to be established in close association with it. Following this, probably House 4 was erected. The scientific dating does not unequivocally point at an early date for the house, but this may be due to later material interfering with the site due to later activities here. House 4 is also closely associated with the small enclosure, and it is possible that it existed throughout the lifespan of the house, since the houses within the enclosure have at least two phases. Following this, we likely see House 3 being built, the structure of which is practically a copy of House 4. With this, the focus of Farm 1 moves north. To the north of House 3 is House 40, perpendicular to it, and judging from its location it may well belong together with House 3. After House 3 follows House 1, though this does not totally match the scientific dating of

the house. The structural similarities of this house to House 2 (which is the younger one), as well as the stratigraphic relationship between cooking pits and houses, mean that House 1 is best placed in this second-last part of Farm 1's history. House 46 should possibly be linked to House 1, since it is placed practically in the same way as House 40 is in relation to House 3 (albeit mirrored). Speaking in favour of this is the fact that the entrances to Houses 1 and 46 are placed directly opposite one another. Speaking against this interpretation, the orientation of House 46 is oblique and not right-angled in relation to House 1. House 2 is the last of the great longhouses on this site. This is confirmed by scientific dating and by the objects found, which point towards a later date. It is not possible to definitively link any other house to House 2 in the same way as with the other great longhouses. Cautiously, because more precise dates are lacking, it is, for example, possible to divide the cooking pits into two chronological groups – an early and a late one (see Fig. 2.10). The earlier group can be linked to Houses 5, 4 and possibly 3, while the later group can be linked to Houses 3, 1 and 2. This being the case, perhaps Houses 23 and 79/83, which are both located at the edge of Farm 1, can be linked to the later phases of the farm and with some probability to House 2, which constitutes the latest part of the farm's history. Unfortunately, the remaining small longhouses within Farm 1 cannot be linked with certainty to any given part of its history, but they were obviously part of it at some point.

All in all, a picture emerges of a farm unit which is dominated by five great longhouses and an unusual inventory of objects. Although the great longhouses could not, physically speaking, have existed all at the same time, it is likely that these great longhouses each represent an independent phase of Farm 1. To each phase belongs a number of smaller longhouses placed in close relation to the great longhouses. The great longhouses were placed centrally and at a high point within the settlement. Since the fence that likely surrounded Farm 1 has not left very clear traces in the archaeological material, it must be assumed that there was no palisade but rather a fence of a more delicate nature. Thus, the five great longhouses were visible in the landscape, with open areas around them and only few associated buildings. At least one of the longhouses was, moreover, erected on an artificial plateau, which contributed to enhancing the main building of the farm. Dates obtained from objects and from scientific analyses show that the lifespan of Farm 1 covers the entire lifespan of the settlement.

Farm 2

Farm 2 lies in the north-eastern corner of the excavated area, east of Farm 3 and just north of Farm 1, possibly with a small overlap with Farm 1 (see Fig. 2.4). The farm unit is separated out on the basis of the uniform placement of the

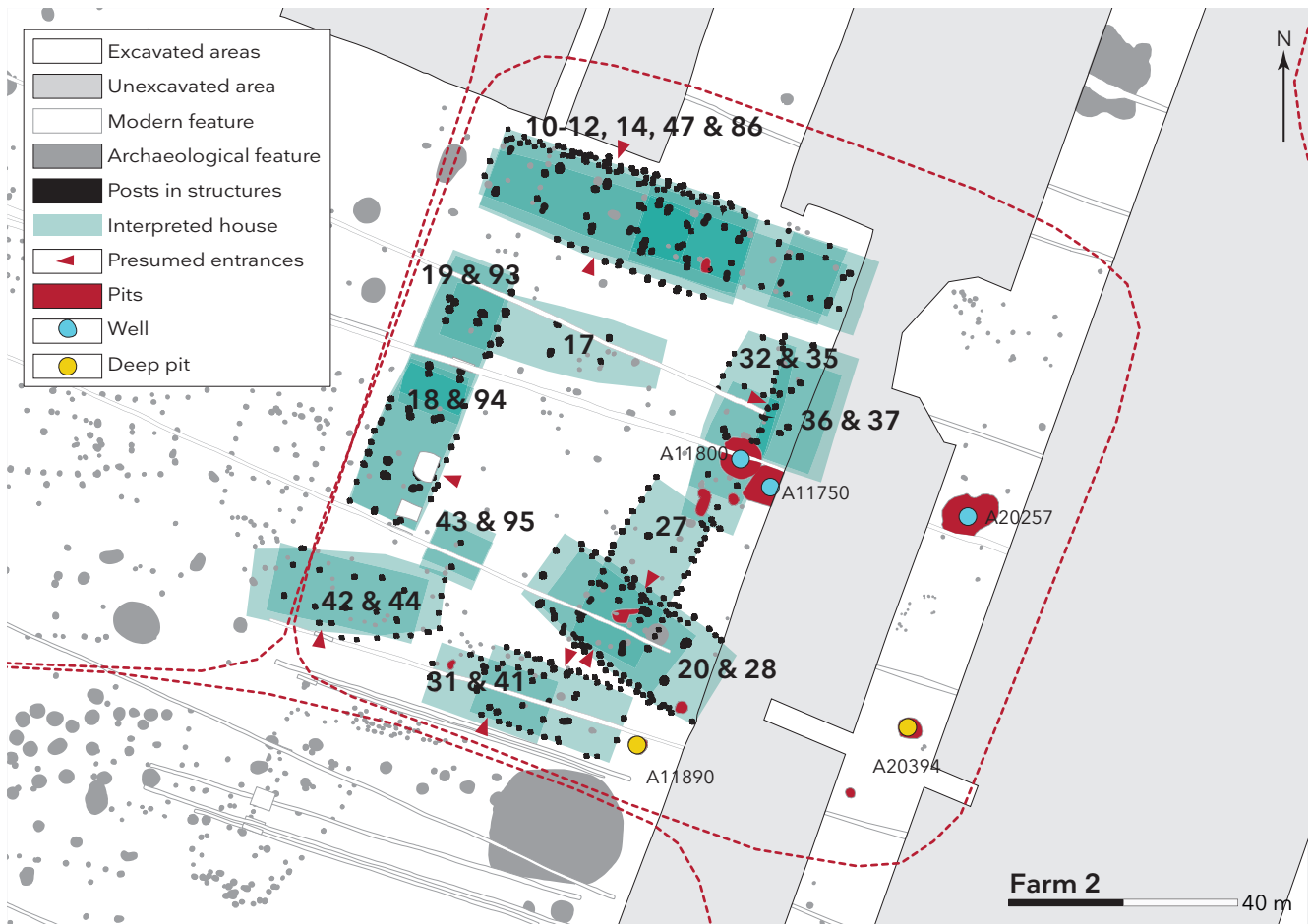


Fig. 2.11. Farm 2 with all house sites marked. On the map, entrances are marked with triangles. All pits are highlighted, among these deep pits and wells are also found. Illustration: Museum Southeast Denmark.

longhouses in terms of location, orientation and relation to one another. At the same time, the boundaries towards Farm 1 and Farm 3 are relatively clear. Towards Farm 1, Farm 2 is delimited by a narrow area which is relatively featureless, and by a line of cooking pits. Towards Farm 3, the location of the longhouses constitutes a clear delimitation. The farm in its full extent has probably been more or less completely uncovered. In the areas to the south and west, trial trenches show that the density of features stops immediately north of the farm, which means that the farm has probably also been uncovered here. Towards the east, the farm continues, and some of the farm houses have not been fully uncovered. However, the trial trench east of the excavated area reveals that the farm does not continue very much further to the east.

Houses and features belonging to Farm 2

In total, 24 buildings and structures can be linked to Farm 2 (Houses 10, 11, 12, 14, 17, 18, 19, 20, 27, 28, 31, 32, 35, 36, 37, 41, 42, 43, 44, 47, 86, 93, 94 and 95) (Fig. 2.11). As was discussed in relation to Farm 1, there is some doubt regarding the affiliation of Houses 20 and 28. This is primarily

because their orientation differs from that of the remaining houses belonging to Farm 2. Moreover, both houses are more solidly constructed than the other houses (see Beck, Chapter 3). Due to their orientation, the two houses almost seem to be oriented in relation to House 46 of Farm 1, which also has an atypical orientation. All three houses might therefore belong to Farm 1. Alternatively, House 46 might belong to an independent part of Farm 2's history. Since this cannot be determined on the basis of the existing material, however, Houses 20 and 28 will be considered here as part of Farm 2, where they may constitute two phases of a main house in the oldest period of Farm 2's history. No pit houses or small buildings can be associated with Farm 2, and there is no evidence of a fence linked to Farm 2.

All houses are defined as longhouses, although their sizes and characters differ. On the basis of their size and location within the farm, Houses 10–12, 17, 20, 28, 47, and 86 are interpreted as main houses of this farm. The longhouses are between 11 and 22 m long, but no clear groupings can be detected. The tendency, however, is that the largest houses are located in the northern sequence of longhouses. The

roof-supporting structures vary in such a way that different types of structures can be discerned: some longhouses have a roof-bearing construction that runs in a very regular way through the entire longhouses, so that all rooms are of equal sizes, some longhouses have only two sets of roof-bearing posts with a large span of length between them, which creates a large room in the middle, and three longhouses have other types of constructions (one is a one-aisled longhouse and two have only one set of roof-bearing posts). The houses are all oriented either WNW–ESE or NNE–SSW, and this orientation deviates in relation to that of the longhouses of Farms 1 and 3. The longhouses 20 and 28 stand out from the remaining buildings of Farm 2 by having a different, more northerly orientation than the other longhouses. Generally speaking, the longhouses of Farm 2 clearly orient themselves in relation to one another. The main houses are all oriented more or less WNW–ESE. Perpendicular to this are several (rather uniform) longhouses from several phases. To the south are several smaller longhouses of more varied character, among these two phases of a longhouse with just one set of roof-bearing posts. The mutual connectedness of these longhouses is emphasised by the way in which those entrances that have been recognised mainly face one another.

In the eastern and south-eastern part of the farm unit are several large pits, among these two deep pits (A11890 and A20394), a well (A20257) and two cisterns (A11750, A11800) (Kildetoft Schultz, Chapter 4). Two pits located in the southern area towards Farm 1 are cooking pits (A12119, 20286). Between the longhouses there is a relatively featureless area, which may suggest that there was a farmyard between the houses.

Objects from Farm 2

It is characteristic of the postholes from the houses of Farm 2 that only very few finds were made (despite sieving). In House 19, two pottery sherds were found, while House 20 yielded some bones. House 28, however, stands out by throwing up finds of pottery, bone, burnt clay and an iron nail. Apart from this, a *guldgubbe* was found in the hole of one of the roof-bearing posts (A11833). The *guldgubbe* (cat.no. 8) is a primitively trimmed specimen, with legs and belt hinted at. The *guldgubbe* differs from the other *guldgubber*, found at Farm 1, by being a *singlegubbe* and of a simpler design.

In the cistern A11800, apart from some faunal material, also an iron fire striker was found, dateable to the Viking Age (cat.no. 472), and a sandstone spindle whorl (cat.no. 708). In pit A20394, half a loom weight was found and some bones and pottery. In the other pits were found ordinary settlement waste, such as faunal remains, and a limited amount of pottery. A bird brooch from the Late Germanic Iron Age (cat.no. 23) and a dirham (x645), as well as a gilt bronze fitting from the Viking Age (cat.no. 153) were found in the plough soil at Farm 2 (Baastrup, Chapter 7; Hårdh,

Chapter 9). The bird brooch was found on the boundary between Farms 1 and 2, while the coin was found immediately north of House 44. The gilt bronze fitting was found east of House 18/19. Additionally, a bronze plate (cat.no. 397) and a bronze droplet (cat.no. 337) are stray finds from within the area.

Dating and development of Farm 2

There are no scientific dates of material from Farm 2. The dates arising from objects found here cover a broad span, but also confirm that the farm unit existed within the timeframe of the settlement's dating. However, they cannot help us to obtain a more nuanced picture of the chronological development of Farm 2. The same goes for the typological dating of the houses. There are traits in these structures that point towards an early date, such as the narrow span between the roof-supporting posts and the entrances placed opposite one another centrally in the house. But there are also traits that point towards a later date, such as the curved walls, wide spans in the roof-bearing structure, and a roof-bearing construction of the 'Trelleborg type' with a central room in the middle. All in all, however, the typological traits place the houses within the timeframe of the settlement.

The stratigraphic dating, on the other hand, can help us nuance the picture. Houses 10, 11, 12, 47 and 86 are interpreted as five phases of the same main house. House 14 possibly represents yet another phase, but this house has not been sufficiently uncovered in order to answer this question at present. The stratigraphic relations between the houses show that House 11 is older than House 12, but the rest of the internal chronology between the houses remains unknown. House 17 is a main house that stands through only one phase. Stratigraphically, House 17 is older than House 19. Houses 20 and 28 are phases of the same main house, with House 20 being the older one. These longhouses are stratigraphically older than House 27. In the western part, we have House 18/94 and House 19/94, which represent two phases of the same house. Judging from their identical positions, these houses cannot have been in place at the same time, but one probably replaced the other. Since there is no internal stratigraphy between them, it is not possible to say which one replaced the other. There is a similar situation in the eastern part of Farm 2, where Houses 32, 35 and 36/37 are all located roughly at the same place and with the same orientation. Houses 36 and 37 are phases of the same house, with House 37 being the older one, while Houses 32 and 35 overlap one another and here, House 32 is the older one. None of the houses can have been in place at the same time, nor can they have been in place at the same time as House 27. Nor can Houses 32, 35, 36 and 37 have been in place at the same time as the cisterns A11750 and A11800. Stratigraphically, House 35 is older than the pits, so the most probable situation is that the cisterns were established after the houses here had been demolished. Houses 31 and

41 are situated in such a way that they cannot have been in place at the same time. Their orientation indicates that they are not contemporary with House 20/28. The same goes for Houses 42/44 and 43/95.

Judging by the placement of the houses, it is likely that the main houses, Houses 10–12, 17, 47 and 86, as well as perhaps House 14 (six or seven phases of the same house), belonged together with the smaller longhouses House 18/94, House 19/93, House 27, House 32, House 35 and House 36/37. House 20/28 cannot be immediately linked to other houses, unless House 46 belongs to it, as previously discussed. House 31, House 41, House 42/44 and House 43/95 cannot be linked to any particular part of Farm 2's history. House 20/28 probably belong to the oldest phase of the farm on the basis of the stratigraphic relation to House 27, while the cisterns A11750 and A11800 belong to one of the latest phases of the farm unit. At present, it is not possible to achieve a more detailed internal chronology.

Together, the longhouses of Farm 2 form a farm layout with a central yard surrounded by houses on two to four sides. Judging by the number of main houses, eight phases can be identified for this farm unit, with several phases occupying the exact same locations. It is worth noting the high degree of continuity regarding the farmyard, which practically remains the same throughout the lifespan of the farm. The objects found here span the period from Late Germanic Iron Age to Viking Age and, together with the many phases of the farm, it must be expected that Farm 2 existed throughout the lifetime of the settlements.

Farm 3

Farm 3 lies in the eastern part of the excavated area, north of Farm 1 and between Farm 2 and Farm 4 (see Fig. 2.4). These longhouses have been separated out as a farm unit partly because the larger ones share similarities in terms of their construction, partly because of their concentrated location, which is clearly delimited from Farm 2. Despite the short distance to Farm 1, Farm 3 is distinct from Farm 1 by a clear delimitation in the form of a row of cooking pits and a relatively featureless area of similar size. Farm 3 has been uncovered in its full extent, as the excavated area goes more than 40 m beyond the entire perimeter of Farm 3. Towards the north, excavations and trial trenches reveal that the area is relatively featureless, and there are probably no further farm units to be found there. Between Farm 2 and Farm 4, there is an area that is almost empty of house structures. This is interpreted as the delimitation of Farms 3 and 4, respectively.

Houses and features within Farm 3

Farm 3 consists of 19 structures in total, 14 of which are longhouses (Houses 13, 15, 16, 22, 24, 25, 26, 29, 30, 34, 38, 39, 45, 74), two are smaller buildings (Houses 33, 87)

and three are pit houses (G101, G102, G103) (Fig. 2.12). Houses 13, 24 and 29 are interpreted as main houses. No fences can be discerned in connection with Farm 3. Because of the short distance between Farms 1 and 3, House 29 might also be regarded as part of Farm 1. House 29 has the very same orientation as House 3 of Farm 1, and the two entrances of the longhouse face south, which gives the house a clear orientation towards Farm 1. However, in its structure it resembles Houses 13 and 24 to such an extent that they must be different phases of the same longhouse.

In terms of size, the longhouses divide into two groups: longhouses that are between 24 and 28 m long (Houses 13, 24, 29) and longhouses that are between 9 and 16 m long (Houses 16, 22, 30, 38, 39, 45). The longhouses 13, 24 and 29 are rather uniform in terms of their roof-bearing structures and their distribution of rooms and so they are interpreted as main houses, while the group of smaller longhouses have more varied expressions. It is noteworthy that at least four of the longhouses have a roof-bearing structure that involves a middle post, and they constitute the greatest concentration of houses with middle posts within the settlement. In the larger longhouses, Houses 13, 24 and 29, the roof-bearing structures entail that these houses each have one centrally located large room, with smaller rooms towards the gable ends. Unfortunately, Houses 38 and 39 are very poorly preserved and so there is some uncertainty regarding their original appearances. It is possible that they stem from yet another two phases of larger longhouses, although they cannot be interpreted as such due to their state of preservation. Houses 33 and 87 represent two phases of a smaller construction, possibly a four-post structure. The pit houses are all constructed with a roof-supporting post at either end of the pit. This is a common construction in the Late Iron Age (Sørensen 1993; 2011, 48). At least two of the pit houses have a post that is placed somewhat asymmetrically in relation to the middle, and this is interpreted as belonging to a warp-weighted loom (Thomsen 2010; L.G. Thomsen, pers. comm.). The larger longhouses and several of the small longhouses are oriented east–west. However, two of the smaller longhouses are oriented north–south. This is the same orientation as the great longhouses of Farm 1. The two westernmost of the pit houses are oriented ENE–WSW, whereas the pit house G103 has the opposite orientation. In both situations, however, these smaller buildings arguably oriented themselves in relation to the remaining buildings of Farm 3. There is a clear distribution of the house structures: The larger longhouses are located in the northern part of the farm unit, while the smaller longhouses and the pit houses are located in the southern part. The farm likely had a layout with two longhouses placed perpendicular to one another during some phases and during other phases it had a layout with two parallel longhouses. The larger longhouses, Houses 13, 24 and 29, perhaps also Houses 38 and 39, are interpreted as main houses of the farm, while Houses 22 and 45 are

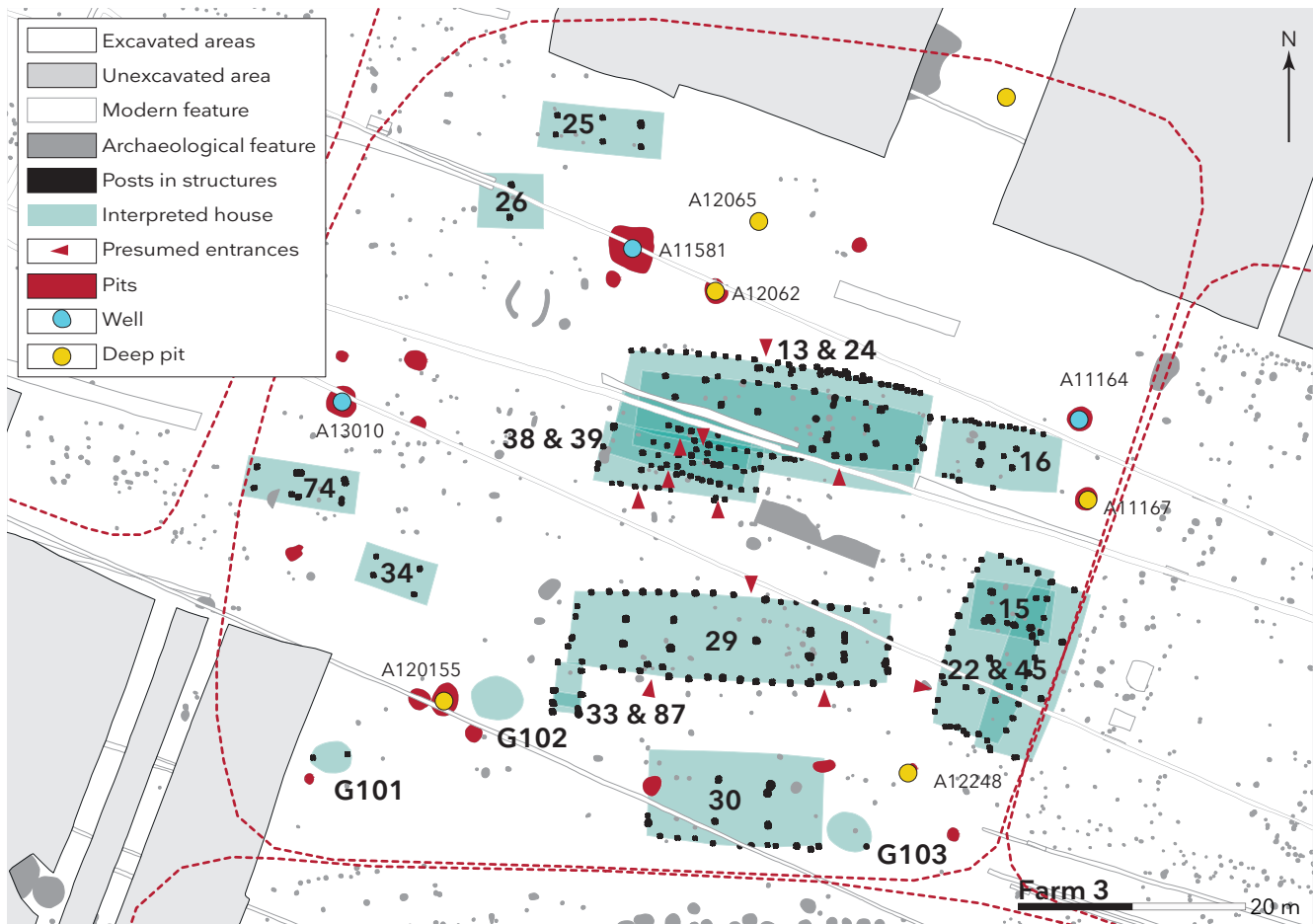


Fig. 2.12. Farm 3 with all house sites marked. On the map, entrances are marked with triangles. All pits are highlighted, among these deep pits and wells are also found. Illustration: Museum Southeast Denmark.

interpreted as smaller side houses located perpendicular to the main house. Houses 15, 16 and 30, on the other hand, are smaller longhouses placed parallel to the main houses. The pit houses lie in the southern part of the farm, partly in the south-eastern section, partly in the south-western.

Along the perimeter of Farm 3 there are a number of pits, six of which are deep pits (75–98 cm deep) (A10969, A11167, A12055, A12062, A12065 and A12248). Among the remaining pits, a few (A11580, A12060, A12073, A12187, A11729, A13051) have the character of cooking pits with fire-cracked stones and charcoal in their fill or a fireplace, underneath which the soil has been coloured red from exposure to heat (A10970). The pits, however, are of a different character, than the cooking pits around Farm 1. Moreover, three wells, A11164, A11581 and A13010, can also be linked to Farm 3. The other pits in this area are mainly uncharacteristic and their function is unknown, nor can they be definitely linked to the Late Iron Age settlement. The pits fall into three groups. One group is found in the eastern part of the farm, near House 22/45, one is found around the pit houses in the southern part of the farm and

one north of the farm. Between the main houses and the smaller longhouses, on the other hand, there is a relatively featureless area, which may have functioned as farmyard.

Objects from Farm 3

The inventory of objects found at Farm 3 is extensive, although it must be taken into account that, within Farm 3, there are three pit houses which yielded a significant number of objects. In House 13, a piece of Baltic Ware of the Fresendorf type was found in a posthole belonging to a roof-bearing post (x11007), and this dates the house to the Viking Age (AD 700–950). In a posthole that belongs to House 45 (A11222), two coins were found, one is a dirham the other an English coin, both from the 9th century (x718 and x719). Also pottery and/or bones were found in both houses. The same goes for Houses 15, 24, 29 and 30. The remaining longhouses yielded no finds.

In the pit houses G101, G102 and G103, however, many objects were found. Pit house G101 revealed traces of textile production in the shape of spindle whorls (cat.nos 709, 715, 717), three iron knives (cat.nos 425, 426, 439) and

most of a bone comb (cat.no. 680), which dates from the Viking Age. In pit house G102, a large number of bones were found, including bones from birds and fish, but also a spindle whorl (cat.no. 710) and the head of an ornamented bone needle (cat.no. 692), as well as production waste in the form of iron slag (cat.no. 377). Moreover, a single segmented glass bead was found (x698) and a small piece of glass slag (x851), which is often seen in connection with glass-bead production (Sode, Chapter 10). Additionally, a bronze lump was found (cat.no. 357), which may be a discarded piece intended for melting down. Finally, one of the few carnelian beads (x852) found on the site comes from this pit house. In the last pit house within Farm 3, G103, spindle whorls and loom weights were found (cat.nos 707, 724, 725), as was an iron fitting for a casket (cat.no. 492) and an arrowhead (cat.no. 262) alongside faunal remains and a few pottery sherds. The pit houses at Farm 3 have not been excavated in layers, and so the objects found within them may represent either objects directly linked to how the pit houses were used, or waste that accidentally ended up in the pit houses after they ceased to be in use. The relatively high number of spindle whorls and loom weights from the pit houses may suggest that textile production was carried out there, as is known from other sites. Likewise, the discovery of iron slag, glass waste and discarded bronze may indicate that, for instance, glass-bead production and perhaps metalworking was done here.

The pits around Farm 3 contain mainly ordinary settlement waste in the form of pottery sherds, faunal remains and minor iron objects, such as rivets and fittings. In pit A11167, a loom weight was found. Two wells were excavated, A11164 and A11581, both north of House 13. The finds from these wells comprise ordinary settlement waste (Kildetoft Schultz, Chapter 4). The well A13010, however, yielded a great many finds apart from settlement finds such as bone and pottery, among these a bird brooch (cat.no. 27) dated to the last part of the Late Germanic Iron Age and a possible arrowhead (cat.no. 287), as well as iron objects such as a knife (cat.no. 453), an iron hook (cat.no. 505) and socket (cat.no. 552), and a fragment of a spindle whorl (cat.no. 716).

Above House 29 was a cultural layer wherein several iron nails and rivets were found, as well as a copper-alloy bow (cat.no. 217). The items were found in connection with searching the cultural layer with a metal detector, but the cultural layer was not sieved. North and west of House 29, however, at least 12 m² of the plough soil covering Farm 3 was sieved, which resulted in finding a few sherds of glass (x693, x695, x746), two whetstones (cat.no. 758, cat.no. 759) and a lump of melted lead (cat.no. 360). Stray finds from the area around Farm 3 also include two bird brooches (cat.nos 29 and 30) from the Late Germanic Iron Age. A trefoil brooch, a circular silver pendant and two oval brooches (cat.nos 77, 108, 85, 90) from the Viking Age, as

well as a plate brooch (cat.no. 50) broadly dated to the Iron Age/Middle Ages, were also found in this area. Additionally, a bit bar dateable to the Late Iron Age was found within Farm 3 (cat.no. 233).

Dating and development of Farm 3

Material from House 29 has been ¹⁴C-dated to AD 648–720/741–766 (sample UBA 31487), which places the house chronologically in the early part of when the settlement was in use. Objects from House 13 and House 45, however, point towards a later period and may belong to later phases of the history of the farm. Objects from the pit houses G101, G102 and G103 place all three within the Viking Age. Typologically, the longhouses fit with a dating within the Late Iron Age, given their curved walls, sloping support posts and roof-bearing structures that result in one large, coherent room, similar to Trelleborg-type houses.

Judging from their location and structure, Houses 13 and 24 are two phases of the same house. Which is the older one cannot be determined, but since most of the finds were made in House 13, this is possibly the younger one. Houses 22 and 45 are also two phases of the same house, with House 45 being the older one. House 30 is intersected by G103 and thus older than it. Houses 38 and 39 are located in the same spot as House 13/24 and are thus not contemporary with it. House 15 lies in the same spot as House 22/45 and is thus not contemporary with it, while House 33/87 lies too close to House 29 to be contemporary with it.

Given the dates, it seems possible to interpret the situation in such a way that House 29 is the first main house of the farm. House 30 might belong with this house. Following this, the main house moves north, where House 24 and House 45 constitute a farm unit. These are succeeded by House 13 and House 22 in practically the same place. The pit houses probably belong to the last two phases of Farm 3 on the basis of the objects found in them. Houses 25, 26, 34 and 74 cannot be chronologically placed within any particular phase of Farm 3, but they are interpreted as houses near the periphery of the farm's grounds and they may have functioned as sheds, barns and the like. Pits and wells cannot be located within any particular phase of the farm's history, either. Throughout the lifespan of the farm, it seems that the possible farmyard in the middle of Farm 3 was respected, since no large pits were established here.

Summing up, Farm 3 appears to have had a more changeable structure than, for instance, Farm 2. The structure shifts from two parallel longhouses to a layout with two perpendicularly linked ones. If each of the main houses are interpreted as one phase of the farm, there were at least three phases of it. This roughly fits the number of smaller buildings. Farm 3 was probably in place for some, but hardly all, of the lifespan of the settlements, although the objects found and the scientific dates pertaining to the farm cover the full period of the settlement's lifespan.

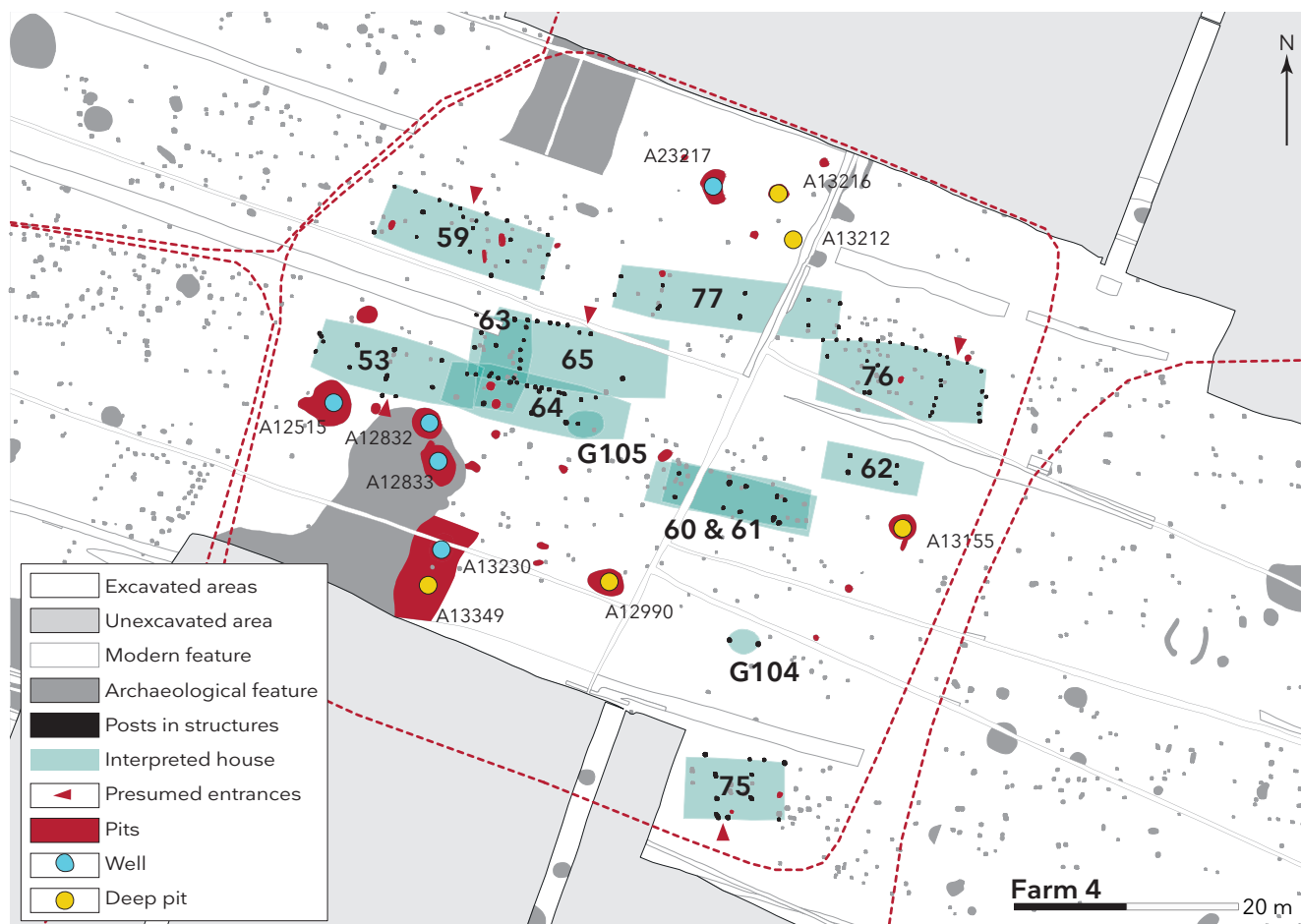


Fig. 2.13. Farm 4 with all house sites marked. On the map, entrances are marked with triangles. All pits are highlighted, among these deep pits and wells are also found. Illustration: Museum Southeast Denmark.

Farm 4

Farm 4 is centrally placed in the excavated area, north-west of Farm 3 and north-east of Farm 5 (see Fig. 2.4).

Farm 4 is delimited from Farm 3 by a relatively empty area between the two farm units. The boundary facing Farm 5 is also relatively clear due to the placement of the buildings of Farm 5. The demarcation onto the longhouses north-west of Farm 4, however, is more diffuse. It is possible that there was no clear delimitation in this area, but since it is not possible to define the nature of Farm 6, this question cannot be answered at present. Farm 4, on the other hand, has been more or less completely uncovered, as the excavated area covers a perimeter of at least 21 m around the main houses of the farm. If the farm does go beyond the excavated area, this is most likely to happen towards the south where trial trenches reveal the existence of more pits and features.

Houses and features within Farm 4

At least eleven longhouses (Houses 53, 59, 60, 61, 62, 63, 64, 65, 75, 76, 77) and two pit houses (G104, G105) belong to Farm 4 (Fig. 2.13). No fence has been discerned that can

be linked to Farm 4. The majority of the longhouses included in Farm 4 have not been preserved in such a way that their full length can be determined. Yet, the longhouses do divide into two groups: one group of longhouses that are more than 15 m long (Houses 59, 65, 76, 77) and one group that are less than 15 m long (Houses 53, 60, 61, 62, 64). The larger longhouses are rather different from one another in terms of their structure. House 65 has a roof-supporting structure of the 'Trelleborg type', with two sets of posts with large spans between them and a fairly narrow cross-span between the posts. Due to a cultural layer/old layer of topsoil in the eastern end, the full length of the house cannot be determined and the description of it thus carries some uncertainties. House 76 also has a roof-supporting structure with two sets of roof-bearing posts, but, unlike House 65, House 76 has a wider cross-span and rather curved walls. House 77 is very poorly preserved but has a slightly different roof-bearing structure consisting of three sets of roof-supporting posts and one set of posts at each gable. House 59 has a roof-bearing structure consisting of three sets of roof-supporting posts with varying spans between them. The smaller longhouses

are more like one another, with most of them consisting of three sets of roof-supporting posts, rather like House 59, but smaller (Houses 53, 60, 61 and probably House 64).

The two pit houses are of the most common type, with a roof-bearing post on each side of the pit. G105 has a post somewhat displaced in relation to the middle and this is interpreted as belonging to a warp-weighted loom (Thomsen 2010; L.G. Thomsen, pers. comm.). G104 has no features in the pit itself, apart from the two roof-bearing posts. However, only a few rammed-down posts have been registered within this pit house, which may indicate that the degree of preservation was generally poor. All the longhouses apart from one (House 63) are oriented east–west. The same goes for the pit houses. This means they have the same orientation as the great longhouses of Farm 1 and the majority of longhouses in the settlement at large. The larger longhouses are generally located in the northern part of the farm unit, while the smaller buildings are located south of these. In total, four larger longhouses can be interpreted as main houses belonging to Farm 4 (Houses 59, 65, 76 and 77).

Around the perimeter of Farm 4 there are a good number of pits (at least 30) of varying nature. A12990, A13155, A13212, A13216 and A13494 are deep pits with complex sets of layers, while A13632, A13624 and A13625 are small pits with some charcoal and fire-cracked stones in their fill. The latter ones are not actual cooking pits, but they are located fairly close to one another around House 75 and may be an expression of a special activity taking place in this area. Moreover, five wells can probably be linked to Farm 4 (A12515, A12832, A12833, A13217 and A13230). The remaining pits lack any special characteristics and their function cannot be determined. The number of pits and wells around Farm 4 is markedly higher than at Farms 2 and 3. Pits and wells are practically situated in a circle around the longhouses, with the area between the longhouses being relatively free of features. This area may have functioned as a farmyard.

Objects from Farm 4

Objects stemming from postholes that are part of the house structure comprise mainly of ordinary settlement waste, such as faunal remains and pottery sherds. The most noteworthy aspect seems to be that there are finds from practically all the house structures, unlike, for instance, the houses of Farm 2 which were almost empty of any finds. In pit house G105, several fragments of loom weights were found (cat.nos 728, 729, 730, 731), as well as a bone stiletto (cat.no. 700) and some fragments of iron objects whose function cannot be determined on the basis of their respective shapes. The pottery found in this pit house stands out from the ordinary settlement pottery by being thin walled and somewhat hard fired. It is possible that this is early Slavonic Baltic Ware (x13115). Fewer objects were found in pit house G104, which, apart from a bone handle (cat.no. 678) and a possible needle made of a roughly hewn bone (cat.no. 694), includes only faunal material and six little sherds of settlement pottery.

The deep pit A13155 yielded a wealth of finds, with much faunal material, much pottery, including sherds of Baltic Ware, a fragment of glass and a number of iron objects. Among the iron objects were at least two knives, several fittings and an arrowhead. In all the wells belonging with Farm 4, faunal material and minor fragments of pottery were found, but the well A12832 yielded a fragment of a comb (cat.no. 685) while A1283 threw up a gaming piece made of sandstone (which unfortunately was lost after the excavation), as well as spikes, nails and iron fittings. In the south-western part of Farm 4 there is a sizeable area containing cultural layers (A12570) that cover the two wells A12832 and A12832. In the cultural layer, items were found from both the Late Germanic Iron Age and the Viking Age in the form of a fragment of an oval plate brooch (cat.no. 36) and an equal-armed brooch (cat.no. 54), a fragment of a copper-alloy key (cat.no. 412), as well as a sandstone spindle whorl (x973) and an iron knife (cat.no. 433). In the cultural layer located in the northern part of the area (A13223), metal-detector searches have discovered an arrowhead (cat.no. 286), an iron knife (cat.no. 430) as well iron nails and studs. However, the sieving of 5 m² of the soil from the cultural layer resulted only in the find of a few bone fragments and some ordinary pottery sherds.

Dating and development of Farm 4

No scientific dating of material pertaining to Farm 4 has been carried out. The dating based on objects is broad but generally falls within the Late Iron Age. The same goes for the typological dating of the longhouses, based on the occurrence of curved walls and roof-bearing structures of the ‘Trelleborg type’. Stratigraphically, House 64 is younger than pit house G105, since one of its roof-supporting posts has been dug down through the pit house. Houses 60 and 61 are two phases of the same house, so they cannot have been in place at the same time. Judging by the vertical stratigraphy, Houses 53, 63, 64 and 65 cannot have been in place at the same time. Likewise, Houses 76 and 77 cannot have been in place simultaneously.

Summing up Farm 4, four larger longhouses are interpreted as the main houses of Farm 4. Several of them show signs of repairs, most radically in House 76 where it is a fair consideration whether the house was actually rebuilt in the same place. The farm, then, has four or five phases. The layout of the farm probably consisted of a main house and one or two smaller longhouses, perhaps with an additional pit house or a small outhouse located south or south-east of the main houses. The layout of Farm 4 is relatively constant throughout the time when it is in place. Due to a lack of vertical stratigraphy, however, it is not possible to construct an interpretation of the farm’s development. The number of phases suggest that Farm 4 was in place through a large part of the settlement’s lifespan, but perhaps not all of it. Connected to Farm 4, objects were found that can be dated to the Late Germanic Iron Age and the Viking Age.

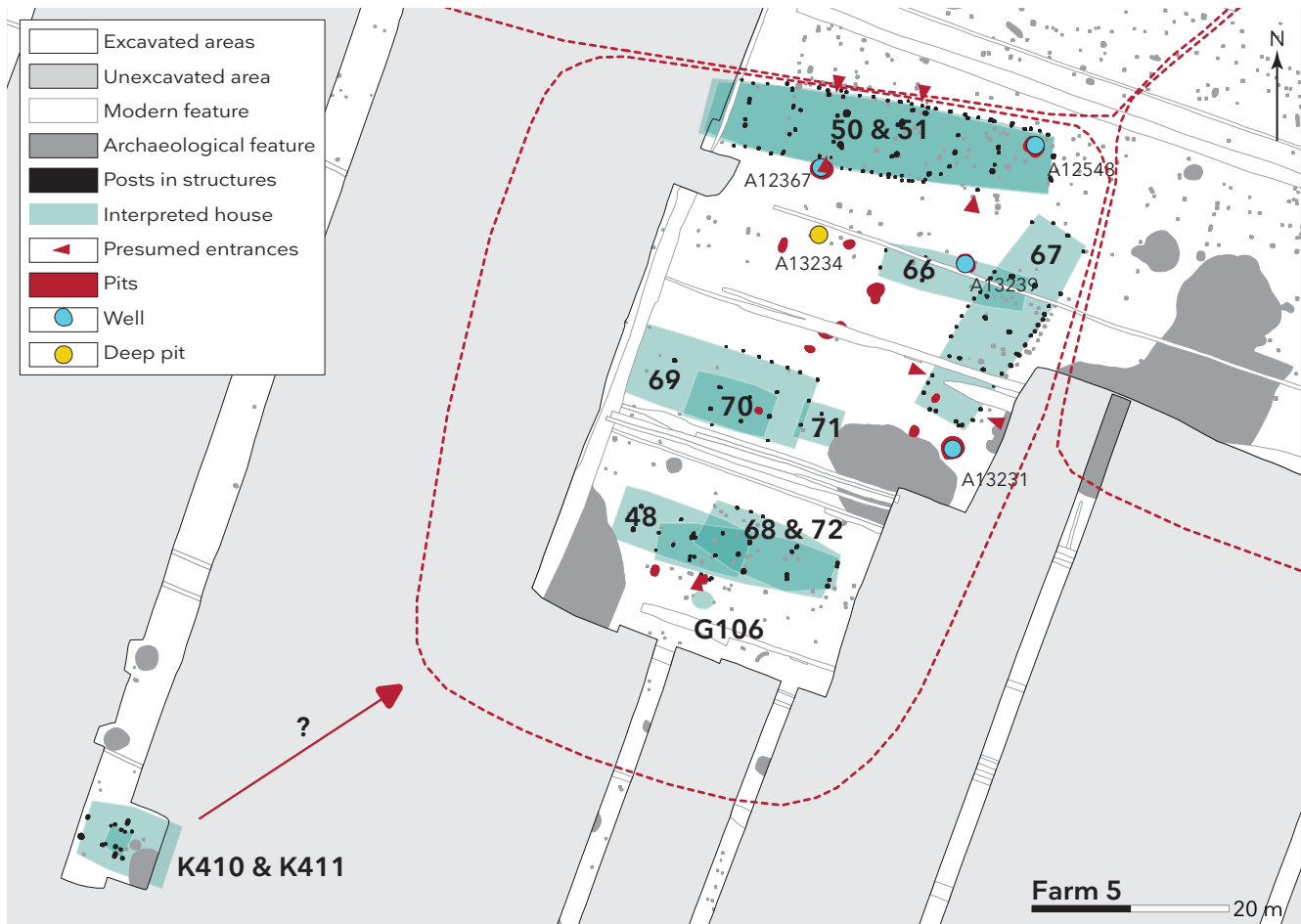


Fig. 2.14. Farm 5 with all house sites marked. On the map, entrances are marked with triangles. All pits are highlighted, among these deep pits and wells are also found. K410 and K411 may have belonged to Farm 5. Illustration: Museum Southeast Denmark.

Farm 5

Farm 5 is situated in the south-western part of the excavated area, south of Farm 6 and west of Farm 4 (see Fig. 2.4). The boundary between Farm 5 and Farm 4 is relatively clear due to the placement of the longhouses, which present a natural demarcation against Farm 4. To the north, in the direction of Farm 6, the demarcation is more diffuse, because it is also possible to see the longhouses 52, 88, and K401–403 as belonging to Farm 5, in which case they would comprise various phases of the same farm unit. However, these houses could just as well constitute an independent farm unit. This cannot be determined on the basis of the areas that have been uncovered at present, since this does not allow for a clear overview of the organisation of Farm 6. It could likewise be argued that K410 and K411 belong to Farm 5. Farm 5 has not been completely uncovered, as several longhouses continue beyond the edge of the excavated area to the west and the east. To the south, the edge of the excavated area is quite close to the southernmost longhouses, and features discovered by means of trial trenches suggest that the farm continues towards the south.

Houses and features within Farm 5

Ten longhouses are associated with Farm 5 (Houses 48, 50, 51, 66, 67, 68, 69, 70, 71, 72) and one pit house (G106) (Fig. 2.14). It is possible that also K410, which has only been partly uncovered, and the four-post structure K411 should be seen as belonging to Farm 5. However, this cannot be clarified on the basis of the existing record. There are no fences clearly associated with Farm 5. The ten longhouses that are part of Farm 5 have not all been fully uncovered, and their structures are thus not fully known. The longest house is 34 m long (House 51) and, although there is some uncertainty, it looks as if the majority of the longhouses were originally more than 20 m. At any rate, Houses 50, 51 and 68 are to be interpreted as main houses, whereas it is less clear whether House 69 is also to be interpreted as such. There is, moreover, a group of smaller longhouses with unclear layout due to the preservation. The larger longhouses are rather different from one another in terms of their structure: One group of longhouses have a roof-bearing structure consisting of several sets of posts that run through the house (Houses 50, 51 and 68), at

least two of these houses moreover suggest a layout with one room larger than the others (Houses 50, 51). Two longhouses have a roof-bearing structure consisting of two sets of roof-supporting posts (Houses 69, 72). Finally, some longhouses have a roof-bearing structure consisting of three sets of posts placed with regular intervals through the house (Houses 48, 66 and 67). The pit house is of the common type, with two roof-supporting posts, one at either end of the pit. No internal posts were registered in the pit. The longhouses are oriented east–west as well as north–south. This orientation is the same as at Farms 3 and 4. The pit house is also oriented east–west and is located in the southern part of Farm 5.

On the perimeter of Farm 5 are a number of smaller and a few bigger pits. Some are flat-bottomed with some charcoal and bits of fire-cracked stones (although they are not regular cooking pits) (A13235, A13270 and A13403), one pit is full of burned clay (A13312), while others are without characteristics. However, none of them can be clearly linked to the farm units. Four wells are nonetheless rather likely associated with Farm 5 (A12367, A12548, A13231 and A13239). Between Houses 50–51 and 69–70 is a relatively featureless area. This area may have functioned as a farmyard through some of the lifespan of the farm. There are several features in the southern part of the farm unit, and no ‘featureless’ areas as such can be discerned.

Objects from Farm 5

Faunal remains were found in several postholes from houses at Farm 5, but often only a few fragments. In one posthole (A12456) from a roof-supporting post in House 50 were found an arrowhead (cat.no. 263) dateable to the Viking Age and an iron stud (cat.no. 620), and a posthole from a roof-supporting post in House 66 (A13242) yielded a whetstone (cat.no. 765). In House 68, one posthole from a roof-supporting post (A13432) yielded a fragment of a clay loom weight (cat.no. 732). In the southern part of Farm 5, a pit house, G106, was excavated, but it did not contain a particularly varied selection of objects. The pit house yielded faunal material and a few sherds of plain settlement pottery. Several of the pits located between and south of the houses of Farm 5 yielded faunal material, burnt clay and minor fragments of unadorned settlement pottery. Four wells have been excavated, all located to the north-east within the farm unit. In A12548 were found a glass bead (x1042), a piece of raw garnet (x1043), a possible fragment of a bone comb (cat.no. 686), a bone needle affected by fire (cat.no. 695), as well as a relatively sizeable assemblage of faunal material. The remaining wells yielded only faunal material and pottery in varying amounts. The plough soil at Farm 5 yielded a copper-alloy bow brooch (cat.no. 11) and a bronze thread (x36). The object inventory of Farm 5 is, generally speaking, limited compared with the other farm units.

Dating and development of Farm 5

No material from Farm 5 has been scientifically dated. An arrowhead from House 50 places this house within the Viking Age, and a fragment of a bone comb from well A12548 can also be dated to the Viking Age, but other than this, the object-based dates are few and broad. The typological dating of the architecture of the longhouses points towards the Late Iron Age, with curved walls, hall rooms and roof-bearing structures of the Trelleborg type. Houses 50 and 51 are two phases of the same house. Several of the other houses also overlap, so that Houses 48, 68 and 72 cannot have been contemporary, just like Houses 66 and 67 cannot have been so, either. Nor can Houses 69 and 70 have been contemporary, with House 70 being the older one. Pit house G106 cannot have been in place at the same time as Houses 48, 68 and 72. The two northernmost of the wells (A12367 and A12548) cannot have been contemporary with Houses 50 and 51, and the well A13239 cannot have been contemporary with House 66 and House 67. There seems to be an obvious link between House 50/51 and House 67, as well as pit house G106. To the south there are several longhouses that are interpreted as main houses (House 68 and possibly 69), which may be earlier or later phases of the farm. Whether further longhouses belong to these phases cannot be determined at present.

Summing up, Farm 5 has at least three, possibly four, phases, depending on how many of the longhouses are to be interpreted as main houses. It is unclear whether there are more phases represented outside the excavated area. This means that the farm existed during some of the lifespan of the settlement, but not all of it. In terms of its dating, the farm is not as well dated as the other farm units, but the objects found here indicate that it must be placed within the overall time frame of the settlement, probably with an emphasis on the Viking Age.

Farm 6

Farm 6 lies in the north-western corner of the excavated area, to the north and north-west of Farm 5 (see Fig. 2.4).

The farm unit is delimited from Farm 5 on the basis of the placement of the longhouses of Farm 5, which create a natural boundary towards Farm 6. The farm has only been partially uncovered and its full extent is not known.

Houses and features within Farm 6

At least ten longhouses belong to Farm 6 (Houses 52, 54, 55, 56, 57, 88, 89, K401, K402, K403) and one minor house in the shape of a four-post structure (House 92) (Fig. 2.15). Houses 57 and K403 may be parts of the same house, which is intersected by Østerhøjvej and thus cannot be examined in its entirety. Houses 54, 55 and K401 are interpreted as main houses of Farm 6. If K403 and House 57 are the same house, this may constitute yet another main house. No pit houses or fences can be associated with the



Fig. 2.15. Farm 6 with all house sites marked. On the map, entrances are marked with triangles. All pits are highlighted, among these deep pits and wells are also found. It is possible that K403 and House 57 originally constituted the same house structure. Illustration: Museum Southeast Denmark.

farm. The longhouses have not been fully uncovered and it is therefore not possible to ascertain their full length, but generally speaking, there seems to have been one group of longhouses that are more than 15 m of length (Houses 54, 55, K401) and one group of longhouses that are less than 15 m (Houses 52, 89, K402). Houses 54, 55 and K401 have several sets of regularly placed roof-bearing posts running through the house. Houses 89 and K402 have only two sets of roof-supporting posts. House 52 has a deviant structure, with a roof-bearing structure consisting of just one set of roof-supporting posts. The longhouses are all oriented more or less east–west, with only few variations. K403 stands out, being oriented more WSW–ENE, and House 56 likewise with an orientation ESE–WNW.

To Farm 6 can be linked a well (A12700) and a deep pit with a complex sequence of layers (A12620). There is, moreover, one cooking pit (A12615). Some of the smaller pits contain fragments of fire-cracked stones in the fill, others do not, but they are otherwise nondescript and their function is unknown. The pits are located especially in the southern

part of this farm unit. There is a relatively featureless area just west of Houses 54–55, which may have functioned as a central farmyard, but this cannot be established with certainty, since the overall layout of the farm is not very well known yet.

Objects from Farm 6

Only three postholes, of which only one is part of a structure – A12748 in House 55 – yielded finds. The pottery of House 55 consists of a Baltic Ware sherd. In pit A12620, located at the boundary between Farms 5 and 6, a fragment of a human skull was found together with parts of a horse skull. It is suggested that this, like pits from, for instance, Tissø, may be a sacrificial pit (see Kildetoft Schultz, Chapter 4). Centrally located within Farm 4 lies pit A12700, which during the excavations was interpreted as a pit, but whose shape, depth and watery bottom may suggest that this feature is more likely a well. In A12700 were found a glass bead (x928), a tooth from a comb, as well as bone and pottery, including a Baltic Ware item.

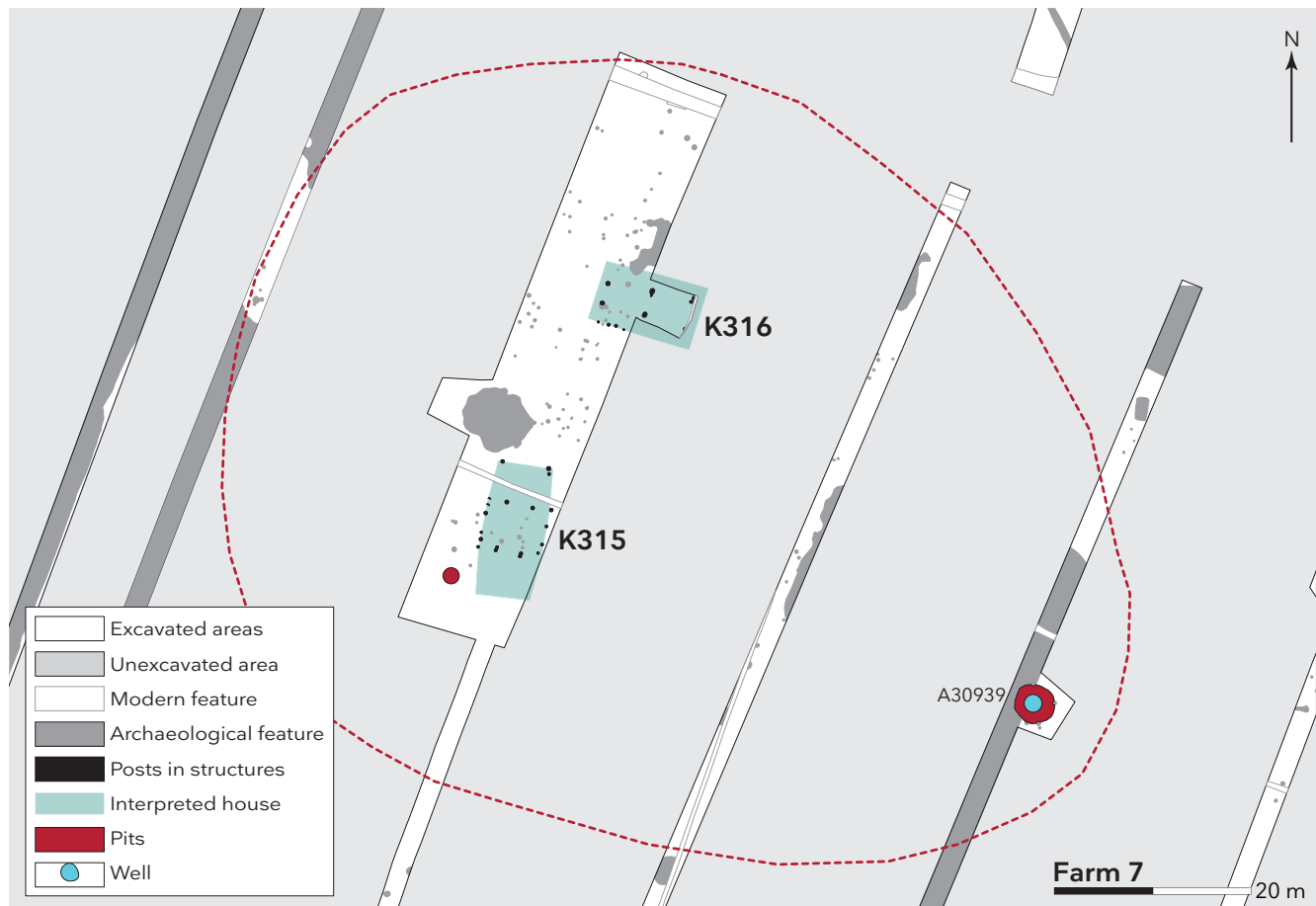


Fig. 2.16. Farm 7 with all house sites marked. On the map, all pits are highlighted. One of these is a well. Illustration: Museum Southeast Denmark.

Dating and development of Farm 6

No material from Farm 6 has been scientifically dated. The dating based on objects falls only broadly within the Late Iron Age, and the typological dates of the longhouses are likewise very broad. The Baltic Ware sherds from House 55 and A12700, however, points towards the Viking Age. Houses 54 and 55 are phases of the same house, and the stratigraphic relationship shows that House 54 is younger than House 55. Additionally, House 56 cannot have been in place at the same time as House 54/55. Nor can K401, K402 and K403 have been in place at the same time. The same goes for House 57 and House 88.

All in all, Farm 6 is not very well understood and its layout is poorly elucidated, since the farm unit has only been partially uncovered. However, on the basis of the relatively clear boundary to the south, facing Farm 5, it appears justifiable to regard the farm as an independent unit. Although the farm has not been uncovered in its full extent, a layout consisting of a longhouse and a smaller house placed parallel to one another can be discerned, possibly with an associated four-post structure. Judging from the number of longhouses

that can be interpreted as possible main houses, at least three, possible four, phases of Farm 6 can be identified. On the basis of this, the farm existed only during a relatively short period of the lifespan of the settlement. The chronological frame of the farm is not clear, but the Baltic Ware found in one of the houses places the farm unit in the Viking Age, possibly the later part.

Farm 7

Farm 7 lies in the south-western part of the excavated area, on a small elevation in the landscape (see Fig. 2.4). Farm 7 is separated out from the remaining settlement by natural hollows in the landscape, and this makes the boundaries of the farm unit clear. Only a small part of Farm 7 has been uncovered, so the character of this farm unit and the number of phases it had are only partially known.

Houses and features within Farm 7

Two longhouses (K315, K316) belonging to Farm 7 have been uncovered (Fig. 2.16). The number of features and

ditches, however, suggests that there were originally more houses in the area. K316 has only been partially uncovered and continues towards the east outside the limits of the excavated area. It is possible that the eastern end of K316 is situated in the trial trench east of the excavated area. In that case, the house was at least 28 m long. K315, however, has been fully uncovered and was 9–10 m long. The houses are of two different types. K316 looks to be of the type with a set of roof-supporting posts running through the whole house, although only part of it has been uncovered, so there is no certainty. K315 is a structure with two sets of roof-supporting posts and a large span between them. The longhouses are oriented ESE–WNW and NNE–SSW, respectively. K316 is interpreted as a main house, while K315 is interpreted as a smaller longhouse belonging to K316.

There are only few pits within the excavated area and, of these, one pit (A30881) can be linked to Farm 7 on the basis of its contents of fire-cracked stones in the fill. The pit's function, however, is unknown. Despite the distance, it is likely that also the well A30939 is to be linked to the farm unit. This well is located out in one of the hollows surrounding the farm, which shows that, although natural hollows and wetlands can be seen as demarcations, they were also a space for activities connected to the farm.

Objects from Farm 7

Of the objects found around Farm 7, only few have come out of features. There are no finds from the two longhouses. The well (A30939) yielded faunal material and nondescript settlement pottery, as well as one iron knife (cat.no. 444). Stray finds from the area belonging to the farm unit include a sandstone spindle whorl (cat. no. 712) and a bird brooch (cat.no. 20) and, additionally, a copper-alloy strap buckle (cat.no. 144) was discovered in the area, although it cannot with certainty be dated to the Late Iron Age.

Dating and development of Farm 7

Judging by the typological traits of the houses, the farm dates from the Late Iron Age. This is supported by the contents of burnt stones in the postholes of the longhouse. However, there is no scientific dating or any objects that can date the two longhouses more specifically within the settlement's chronological frame.

The longhouses of Farm 7 lie perpendicular to one another and constituted a two-winged farm layout. Since Farm 7 has been only partially uncovered, only one phase of the farm unit is currently known. Both K315 and K316 have seen replacements among their roof-supporting posts, however, which suggests that the farm existed in this form during an extended period of time. The number of features and pits in the excavated area around the houses and trial trenches is not as great as for the other farms, which suggests

that the farm was only in place for a limited part of the settlement's lifespan.

Farm 8

Farm 8 lies in the southern part of the settlement, on a small elevation in the landscape (see Fig. 2.4). The farm has been uncovered in two phases, firstly in connection with the original excavations, secondly during the follow-up investigations in 2013. The farm is located east of Farm 7 and south-west of Farm 1. Only a smaller part of the farm has been uncovered, and its southern and northern parts cannot be linked with complete certainty. Features discovered in the trial trenches moreover suggest that the farm continues towards the south and west outside the excavated area.

Houses and features within Farm 8

Within the excavated area of Farm 8 there are two longhouses (K314 and K319). It is likely that Houses 80, 81 and 82 should also be seen as part of Farm 8 (Fig. 2.17). Regarding small buildings, two pit houses (G301 and G302), as well as a latrine, A31003, belong to the farm unit. K314/K319 is between 13 and 15 m long and of the same type. Both longhouses are constructed with two sets of roof-supporting posts with a relatively large span between them. Neither of the longhouses can be immediately identified as main houses of the farm unit. Houses 80–82 are all constructed with regularly placed posts running through the house, but they vary in terms of size and orientation. The two pit houses are of the common type, with one roof-bearing post at either end of the pit. None of the pit houses have any further posts within the pit. The structure of the latrine resembles that of the pit houses, with a post at either end. Its orientation, however, is diametrically opposite (N–S) to that of the pit houses (E–W).

Several pits are located within Farm 8. The pits A13959 and A30634 are both deep pits with several layers. In the same way, A30611, A30626 and A31070 also have several layers of fill, although they are not as deep. No wells have been identified as belonging to Farm 8. Of smaller pits, at least nine can be linked to Farm 8 on the basis of their contents of fire-cracked stones and/or burnt clay in the fill. One group of small, nondescript pits (at least three) may also have belonged to the farm but cannot be linked to it with certainty. A number of pits within the area of Farm 8 have not been investigated, but may prove to belong to it, too. The pits are located mainly in the area around the houses, but a small concentration is also seen in the south-western corner of the excavated area.

Objects from Farm 8

Only one piece of pottery was found in a posthole of K314 (A30659) and a few bones and/or pottery sherds from Houses 80 and 82. The pits contain predominantly faunal

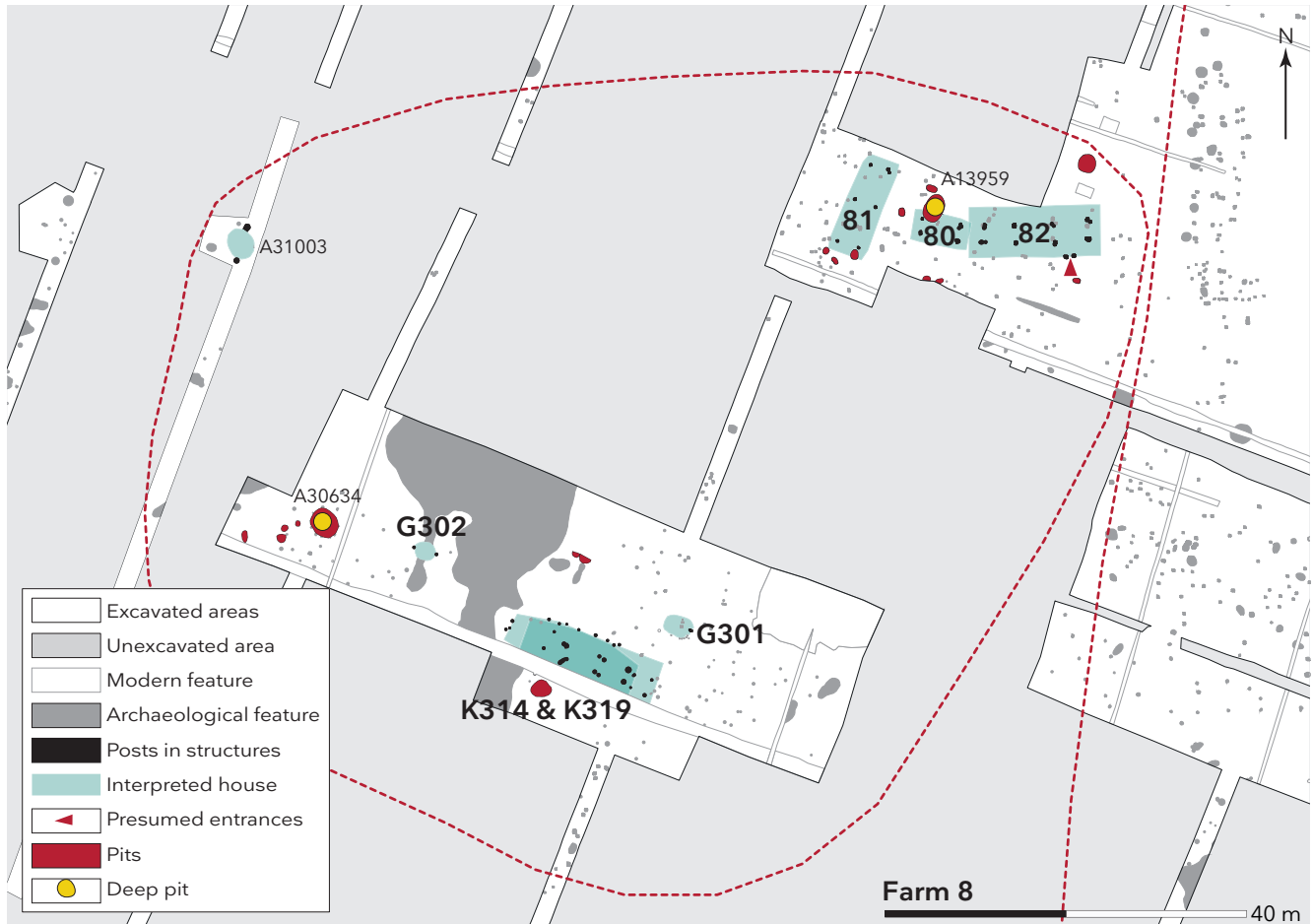


Fig. 2.17. Farm 8 with all house sites marked. On the map, all pits are highlighted, among these deep pits have also been found. Illustration: Museum Southeast Denmark.

material and pottery sherds, but pit A30634 also yielded a fragment of a comb (cat.no. 687), iron slag and an iron knife (x1217) and a glass bead (x1179). In pit house G302 were found a sandstone spindle whorl (cat.no. 713) as well as pottery and faunal material, while G301 yielded no finds. In the thin cultural layer A30608 was found an iron arrowhead (cat.no. 470), but no other stray finds from the area can be definitely linked to the Late Iron Age.

Dating and development of Farm 8

Material from the roof-supporting posts of K314 have been ¹⁴C-dated to AD 670–775 (Beta-429162) and AD 690–750/760–885 (Beta-429161), while K319 has been dated to AD 680–880 (Beta-429163). Material from the latrine fill has been dated to AD 775–970 (Beta-433177). If K314/K319 and the latrine are connected, this dates the farm unit as a whole to the early part of the Viking Age. The objects from pit house and pits only provide a broad dating that places the farm unit within the Late Iron Age. On the other hand, they do not contradict a date in the early part of the Viking Age. The typological dating of

the houses K314 and K319 likewise point in the direction of the Late Iron Age, with a roof-bearing structure resembling that of the ‘Trelleborg houses’. The remaining houses cannot be typologically dated. Stratigraphically, no clear relationships can help provide a more precise dating of the development of the farm. However, K314 and K319 are two phases of the same house. K319 is the poorest preserved one and may thus be the oldest house on the site. House 80 cannot have been in place at the same time as House 82.

Only a limited part of Farm 8 has been uncovered, and so the layout and structure of the farm cannot be determined. It is, however, noteworthy that the pit houses are located north of the longhouse K314/319, whereas those linked to the other farm units are placed in the southern areas of their respective farm units. This may indicate that an actual main house is to be found north of here, towards Houses 80–82. Judging by the uncovered area, Farm 8 has at least two phases, with one longhouse and one pit belonging to each phase. Judging by the number of features in the trial trenches around the excavated area,

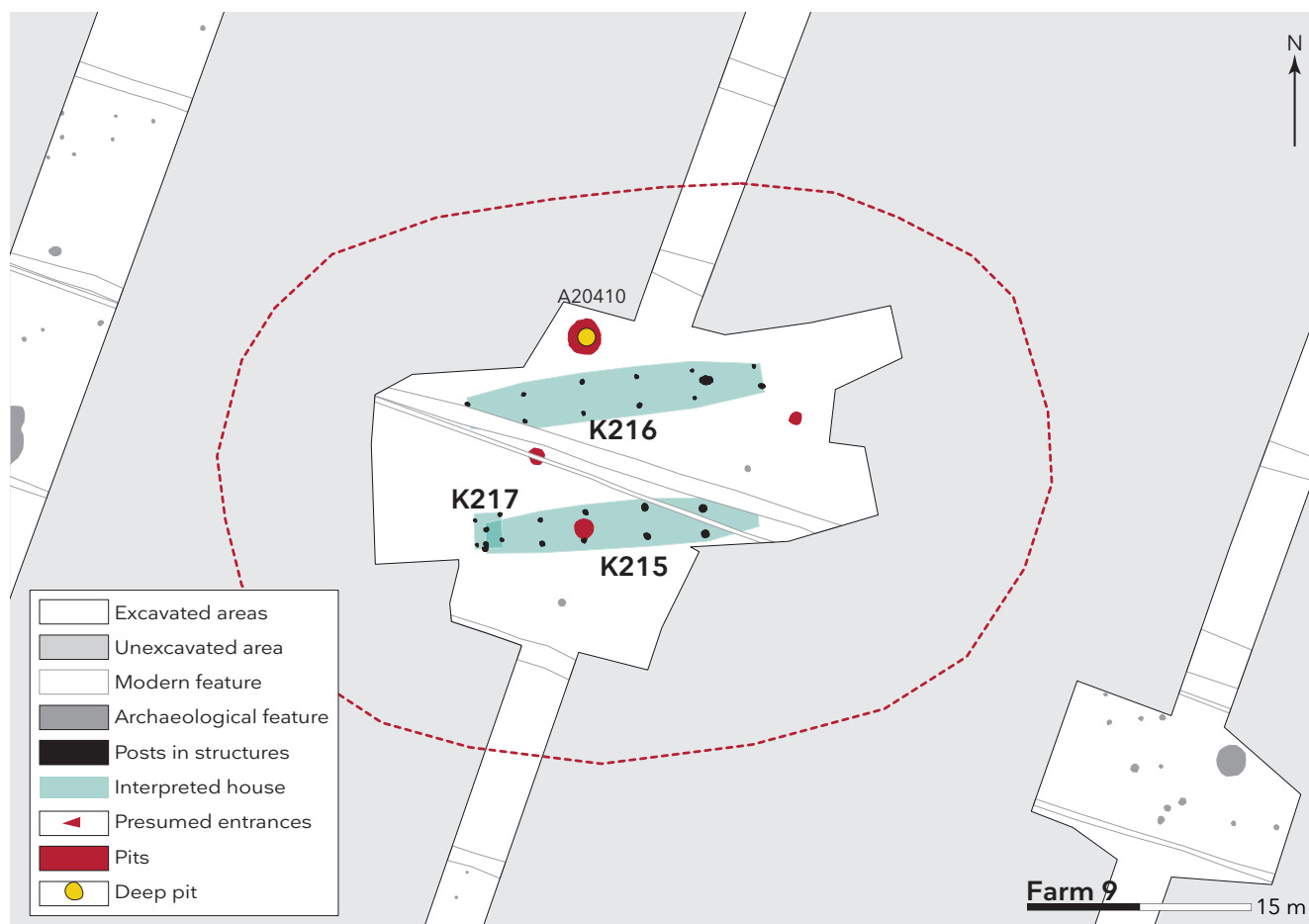


Fig. 2.18. Farm 9 with all house sites marked. On the map, all pits are highlighted. One of these is a deep pit. Illustration: Museum Southeast Denmark.

the farm may have had more phases, although these have not yet been recognised. In terms of its date, Farm 8 falls within the overall chronological frame of the settlement, probably the earlier part.

Farm 9

Farm 9 lies in the eastern part of the excavated area, north-east of Farm 2 (see Fig. 2.4). Farm 9 is clearly delimited from the other farms by being located on its own in the eastern part of the settlement. It is likely that most of Farm 9 has been uncovered, as the trial trenches around the excavated area are fairly empty of features. This suggests a limited use of the place and thus a relatively short lifespan for the farm unit.

Houses and features within Farm 9

Farm 9 consists of two longhouses (K215 and K216) and a small construction in the form of a square four-post structure (K217) (Fig. 2.18). The two longhouses resemble

one another in their structure, with, respectively, five and six sets of roof-supporting posts placed with regular intervals through the house. In the eastern end of K216, the bottom of a fireplace has been preserved. Both houses are interpreted as main houses. The longhouses have the same orientation, which is WSW–ENE. In this, they deviate from the orientation of the longhouses at the other farm units.

In total, there are only four pits within Farm 9. Of these, one is a deep pit (A20410) with several layers of fill, while the remaining pits are smaller and have one or two layers of fill. Two of the pits have some charcoal in their fill, but the pits are otherwise lacking characteristics. None of the pits can be definitively linked to the farm unit, but since there are no signs of any other activity within the area, they likely do belong to it.

Objects from Farm 9

There are very few finds from Farm 9. They consist of bone fragments and nondescript settlement pottery, and they stem mainly from pit A20410.

Dating and development of Farm 9

Material from K216 has been ¹⁴C-dated to, respectively, AD 670–775/790–800 (Beta-429154), AD 650–715/745–765 (Beta-429155) and AD 610–670 (Beta-429156), which places the house within the early part of the settlement's lifespan. No dates based on objects or typology contradict this. K215 and the four-post structure K217 cannot have been in place at the same time. However, there is no stratigraphy between the houses that can elucidate which house is the older and the younger one here.

Judging by the excavated area, Farm 9 consisted of one longhouse and one four-post structure through one or two phases. There are only few pits and features around the longhouses, and none of them can be definitively linked to Farm 9. Summing up, Farm 9 represents the simplest layout of the farms belonging to the settlement at Strøby Toftegård, in that it consists of a longhouse with possible additional smaller structures, such as a four-post structure. The two almost identical longhouses, K215 and K216, reveal that there must have been at least two phases of Farm 9. As there are not very many other features within the area surrounding the two longhouses, this could mean that habitation of this site was short-lived and the farm probably existed through only a relatively short period of the settlement's lifespan.

Summary of the physical structures of the settlement and their development

As is evident from what has been presented above, the settlement can be divided into at least nine farm units on the basis of the physical structures. Each farm unit comprises a number of main houses, a range of smaller longhouses and often also some small houses. As a rule, at least one but often more wells are linked to each farm. The uniformity of the elements within each farm unit suggests that the division into farm units is relatively clear, although the settlement has not been fully uncovered.

The demarcations of each individual farm unit are not always clear and should, as already mentioned, be regarded as more fluid and dynamic than they appear on a map of the site. In some places, the demarcations may have been completely different during certain periods of the settlement's history. For example, the orientations of House 1 and House 46 of Farm 1 and House 20/28 of Farm 2 suggest that they may have belonged together, and there may thus have been a physical overlap between the two farm units at some point. In terms of dating, however, it can be argued that there is no connection, because House 1 and House 46 are dated to the middle phase of the settlement's lifespan, while House 20/28 is dated to the early phase. Questions can also be raised regarding the clear demarcation between Farm 1 and Farm 3 at the time when House 3 of Farm 1 was in use. House 3 is located very close to the boundary

towards Farm 1, and it is possible to imagine a physical overlap with the area belonging to Farm 3. Perhaps we could also imagine a closer connection between House 3 of Farm 1 and House 29 of Farm 3 than the present interpretation suggests, since their respective orientations and placements seem to be associated. As argued in the course of the survey, it is also possible to imagine a more fluid demarcation between Farm 5 and Farm 6 at certain points of the settlement's history.

An interesting trait regarding the farm units is how they are located in relation to one another more generally. Farm 1 is clearly oriented towards the north, with the main houses being placed in the southern part and other structures located mainly north of this. This goes especially for House 5 and House 6, House 4 and the small enclosure, House 3 and House 40, as well as House 1 and House 46. The layout of the remaining farm units (especially clear for Farms 2, 3, 4, 5, 7 and 9) is, in contrast, oriented towards the south, with the main house placed in the northern part of the smaller longhouses and other structures to the south. In this way, the farms seem to almost orient themselves towards one another. If the organisation of the longhouses is also considered, it transpires that there is a kind of 'mirroring' in the way in which the great longhouses are organised compared with the remaining main houses of the settlement. While the great hall room, usually regarded as living quarters, is placed in the western part of the great longhouses (Houses 1–5), the tendency in the rest of the settlement is that main houses that have hall rooms, place the room in the eastern end of the house (Houses 50 and 51). Regarding K215 and K216, it has also been argued that the inhabited part of the house is located in the eastern end on the basis of where the fireplace is located (see also Henriksen & Mortensen, Chapter 5). This means that the orientations of the farms 'mirror' one another, not only externally but also internally. However, there is also a group of houses with centrally located hall rooms (Houses 13, 24, 29, 65, 69, 76 and 77).

Summing up regarding the development of the settlement, it existed on the site from around the middle of the 7th century until the end of the 10th century. However, the dates pertaining to the individual farm units suggest that the size and extent of the settlement changed over the course of this period. Farm 1 and Farm 2 are the only ones to have been in place for the whole of the settlement's history. By gathering the internal dating of each farm unit, a tentative suggestion for the settlement's development can be constructed (Table 2.3).

As an organising principle for the collective development of the settlement, Farms 1 and 2 have been selected as guideline. The overview focuses only on placing the other main houses in relation to this, since many of the smaller longhouses, small houses and pits cannot with certainty be linked to specific main houses. It is therefore also a

Table 2.3. Overview of the dates of individual farm units.

<i>Farm</i>	<i>Phases of main house</i>	<i>Artefact dates (AD)</i>	<i>Stratigraphical dates</i>	<i>Radiocarbon dates (cal AD)</i>
I	5	Late Bronze Age	House 6 is older than House 1	House 1: 656–778/791–827/840–863
		600–700	House 7 and 91 – two phases of the same house	
		Late Germanic Iron Age	House 8 is not contemporary with House 7/91 and House 9/90	House 2: 883–1052/1080–1152 680–782/786–878
		750–830		
		775–850		
		830–900	House 9 and 90 – two phases of the same house	House 3: 673–891
		850–1000		
		900–1000	House 79 and 83 – two phases of the same house.	664–770/779–788
		Early Viking Age	House 83 is older than House 79.	
		Viking Age	K302 is not contemporary with K303–K305.	House 4: 869–995 646–713/744–765
		After 1000 (only stray finds)	K303 and K305 – two phases of the same house. K305 is older than K305.	House 5: 647–722/740–767 657–728/737–769
			Cooking pits – older and younger than House 1 and House 4	Cooking pits: 780–785/880–990 715–745/765–890 885–995
			Cooking pits – younger than fence and House 7	
			Cooking pits – younger than House 40	
			Cooking pits – older than House 79 and 83	A30565: 660–770
II	6–9	600–700	House 11 is older than House 12	–
		Late Germanic Iron Age		
		Viking Age	House 17 is older than House 19	
			House 18 and 94 – two phases of the same house	
			House 19 and 93 – two phases of the same house.	
			House 20 and 28 – two phases of the same house. House 20 is older than House 28	
			House 28 is older than House 28	
			House 31 is not contemporary with House 41.	
			House 32 is older than House 35 and not contemporary with house 36 and 37.	
			House 35 is older than A11800	
			House 36 and 37 – two phases of the same house. House 37 is older than House 36	
			House 42 is not contemporary with House 44.	
			House 43 and 95 – two phases of the same house. They are not contemporary with House 42 and 44.	

(Continued)

Table 2.3. Overview of the dates of individual farm units. (Continued)

<i>Farm</i>	<i>Phases of main house</i>	<i>Artefact dates (AD)</i>	<i>Stratigraphical dates</i>	<i>Radiocarbon dates (cal AD)</i>
III	At least 3	600–700 Late Germanic Iron Age Coins minted 805/805 and 810–821 (House 45) 950–1000 Viking Age	House 13 and 24 – two phases of the same house House 22 and 45 – two phases of the same house. House 45 is older than House 22 House 30 is older than G101 House 33 and 87 – two phases of the same house and not contemporary with House 29. House 38 and 39 are not contemporary with House 13 and 24	House 29: 648–720/741–766
IV	4–5	600–700 Late Germanic Iron Age 800–850 Viking Age	House 53 is not contemporary with House 63–65 House 60 and 61 – two phases of the same house. House 64 is older than G105 House 76 – maybe in two phases. House 76 is not contemporary with House 77	–
V	3–4	Late Roman Iron Age 760–850 Viking Age	House 48 is not contemporary with House 68, 72 and G106 House 50 and 51 – two phases of the same house. House 51 is older than House 50. House 66 is not contemporary with House 67. House 69 is not contemporary with House 70 and 71 House 70 is older than House 69	–
VI	At least 3	Fresendorf – Early 10th Century	House 54 and 55 – two phases of the same house. House 55 is older than House 54, House 56 is not contemporary with House 54 and 55. House 57 is not contemporary with House 88 K401 is not contemporary with K402 and 403	–
VII	1	600–700 Late Germanic Iron Age (stray find)	–	–
VIII	At least 2 (note that no houses are interpreted as main houses)	Late Iron Age	K314 and K319 – two phases of the same house. House 80 is not contemporary with House 82	K314: 690–750/ 760–885 670–775 K319: 680–880 A31003: 775–970
IX	2	–	K216 is not contemporary with K217	K216: 670–775/ 790–800 650–715/ 745–765 610–670

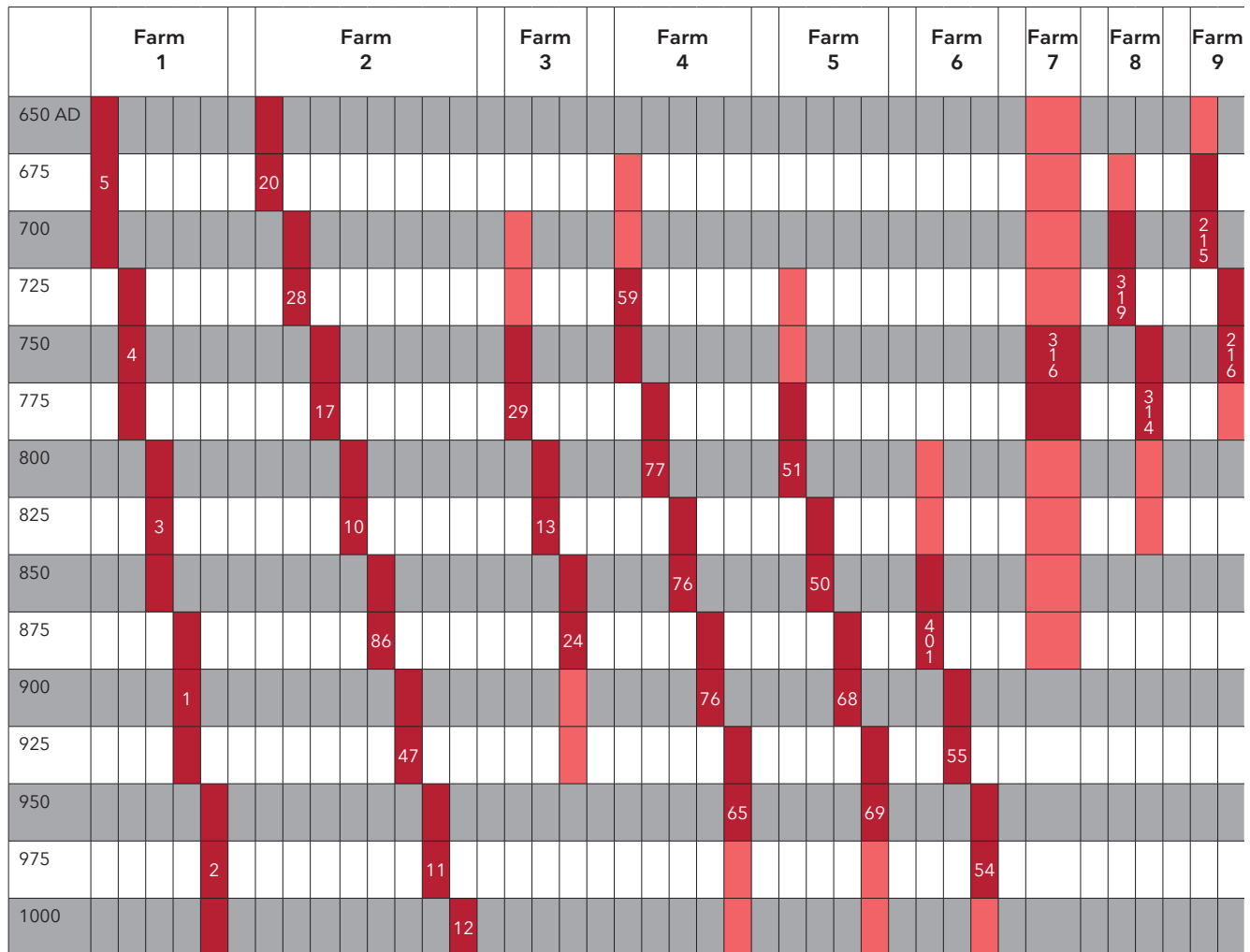


Fig. 2.19. Diagram of the development of the settlement at Strøby Toftegård based on the interpretation of the main houses' lifetime. Dark colour indicates the lifetime of the main house (50–75 years), lighter colour indicates the possible location of the farm in time when uncertain. Farm 7 is the only farm unit that cannot be more narrowly placed within the overall chronological timeframe of the settlement, and it may equally well belong to the early as the late period of the settlement. Hence the uncertain placement of this farm unit in the diagram. The chronological sequence of the main houses where no concrete stratigraphic observations reveal the chronological relationship, the sequence is based on what seems probable based on more fluid relationships, such as similarities in architecture, location and the like. Illustration: Museum Southeast Denmark.

conscious choice not to produce maps of the settlement's 'phases', since our opinion is that such maps would not be able to provide any definite interpretation and, at the same time, they would present the development of the settlement as more certain than the case really is. Instead, the settlement's general development is presented in the form of a diagram where the main houses have been chronologically placed in relation to Farm 1 and Farm 2 (Fig. 2.19). In the diagram, the lifespan of a main house has been schematically set to 50 years for the more delicate houses (main houses of Farms 2–9) and 75 years for Farm 1 (Zimmerman 1998, 50–53; Hansen 2015, 96–103). Obviously, a variety of factors may have caused any given house to have an either

shorter or longer lifespan in real time. The diagram should therefore be seen as an overview only, providing a general idea of the development and dynamics of the settlement, not as anything definitive.

On the basis of the overview, it appears that the early phases of the settlement were established in the eastern and southern parts of the investigated area. When the settlement was initially established, there were three to four units. In time, it seems the settlement grew and was somewhat displaced towards the west and north-west. Given the reservations already noted, the settlement appears to have been at its height during the first half of the Viking Age, with at least six contemporary farm units.

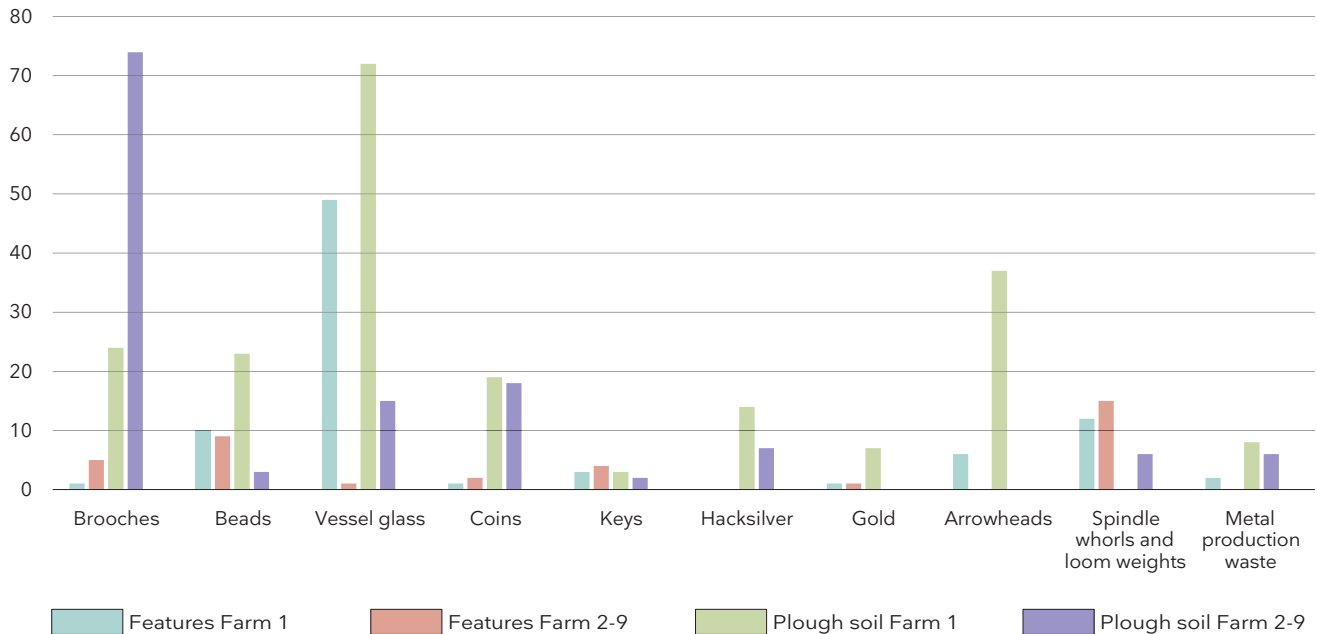


Fig. 2.20. The distribution of selected types of objects in relation to where and how they were found. In its full extent, Farm 1 comprises only 1% of the total settlement area; however, just over one third of all the archaeological features are found within Farm 1. Comparisons are further complicated by the fact that plough soil from Farm 1 has been sieved to a much greater extent than for the other farm units. Nonetheless, the assessment is that the picture of Farm 1 revealing a larger and more varied inventory of objects is genuine. Illustration: Museum Southeast Denmark.

Distribution of items and activities across the settlement

The inventory of items found at Strøby Toftegård is extensive and varied, and the different groups of items are discussed separately in individual chapters (Baastrup, Chapter 7; Kildetoft Schultz, Chapter 8; Hårdh, Chapter 9; Sode, Chapters 10 and 11). All farms yielded material (pottery, fauna, settlement waste in the form of burnt clay, etc.) stemming from the everyday life of the settlement. Judging from these finds, all farm units were used for habitation. The purpose here is to compare the inventories of selected object categories that straddle the above-mentioned chapters and that reflect activities that go beyond daily activities such as cooking. The distributions of items are shown on maps that form the base for the subsequent analysis. A great many of the items were found in plough soil, which means it is hard to verify such an item's affinity with any specific farm unit, since modern cultivation may have separated it from its original context. Generally, however, tests show that ploughed-up items remain in the vicinity of their original place of deposition (see for instance Henriksen 2016, 81). The boundaries between the different farm units are often areas relatively devoid of finds, rather than separating features such as fences. Items from the plough soil must thus be treated with caution in light of the uncertainties pertaining to both the precise boundaries of farm units and the circumstances of the finds. At the same time, finds from the soil-sieving trenches may contribute to distorting the picture of the object

distribution, unless we take into account the fact that different areas of the settlement have been investigated with various methods and degrees of intensity. If we look only at finds from features, the concentration of finds, however, remains densest at Farm 1, with the great longhouses, compared to the remaining settlement, and thus the differences indicated by the material must be regarded as genuine (Fig. 2.20).

The objects have been divided into six categories. Some groups of items occur in more than one category, for instance coins, which appear in both the category of 'import' and in 'trade-related items'; likewise, an arrowhead (cat.no. 272) may be seen as an amulet and thus appear under both 'weapons' and 'amulets'. Undated objects and objects with a broad timeframe, such as Iron Age to Middle Ages, and that have simultaneously been found in the plough soil have only in a few cases been included in the distribution maps. This goes for, for instance, spurs and arrowheads.

- Ritual items (*guldgubber*, amulets, arrowhead/amulet?)
- Imported items (fittings and jewellery produced outside Scandinavia, sherds of vessel glass, fragments of soap-stone, Baltic Ware)
- Personal equipment (brooches, pendants, (arm rings, strap fittings, beads, decorative fittings, tweezers, keys and combs)
- Trade-related items (coins, weights, hacksilver)
- Weapons and equestrian gear (arrowheads, parts of swords, bit, spurs)

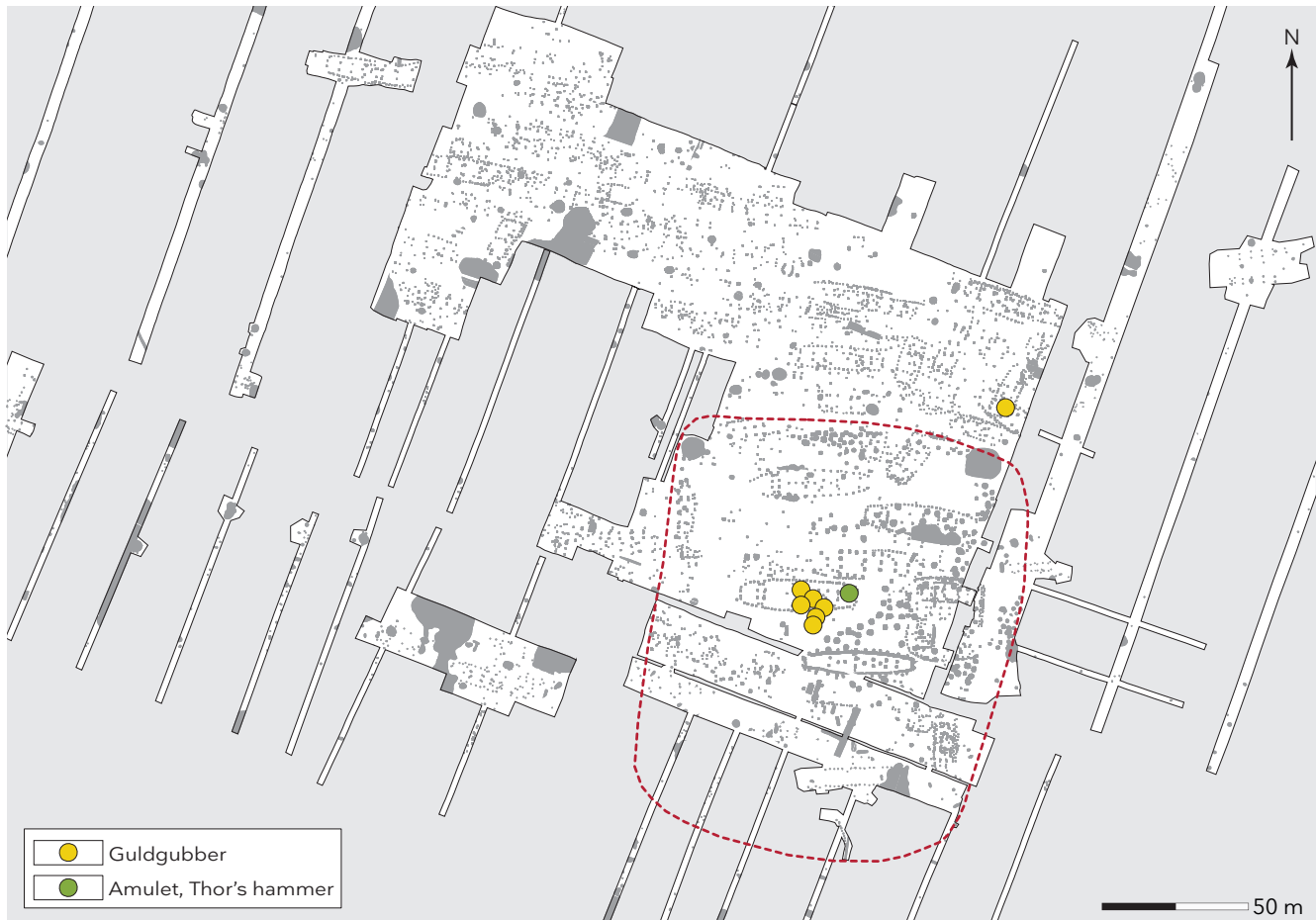


Fig. 2.21. Distribution of finds of ritual objects at Strøby Toftegård. The extent of Farm 1 is indicated on the map. Illustration: Museum Southeast Denmark.

- Production waste and tools (spindle whorls and loom weights, slag, casting sprues casting moulds)

Ritual objects

Ascribed to this group are eight *guldgubber* (cat.nos 1–8), an amulet in the shape of a Thor's hammer (cat.no. 109) and an arrowhead (cat.no. 272), which, due to its small size, should perhaps be seen as an amulet. The arrowhead is a stray find and, unfortunately, it is thus not known where on the site it was found. The *guldgubber* are practically all found within Farm 1 (Fig. 2.21), with just one being found at Farm 2. The *guldgubber* were primarily found in the plough soil, while two (cat.nos 7 and 8) came out of postholes belonging to House 2 and House 28, respectively. The pendant shaped like a Thor's hammer was found in the plough soil within Farm 1 in connection with soil sieving. The ritual items are interpreted as expressions of activities associated with cult and religion. While the Thor's hammer and possibly also the arrowhead can be seen as personal ritual equipment (for instance, the Thor's hammer is quite worn on one side, which suggest it was

often carried by its owner), the *guldgubber* are seen rather as an expression of communal rituals that take place on a more general level and connect people across distances (Baastrup 2016).

Imported items

At Strøby Toftegård, a number of items were found whose provenance place them on the Continent, in the Insular (English-Irish) area, in Scandinavia and in the Near East. From the Insular area come fragments of a hanging bowl and a coin (Baastrup, Chapter 7; Hårdh, Chapter 9). Items from the Continent include jewellery and glass, presumably from the Gallic region (Baastrup, Chapter 7; Sode, Chapters 10, 11 and 12; Gratuze, Chapter 13), and possibly also Baltic Ware (Kildetoft Schultz, Chapter 8). Beads made of carnelian, dirhams and some glass beads come from the Near Eastern region (Sode, Chapter 10). The rock-crystal beads must also be imported and may come from either Central Europe, Norway or the Middle East (Jansson 1988). The vast majority of imported items were found within the precincts of Farm 1 (Fig. 2.22), which is especially clear

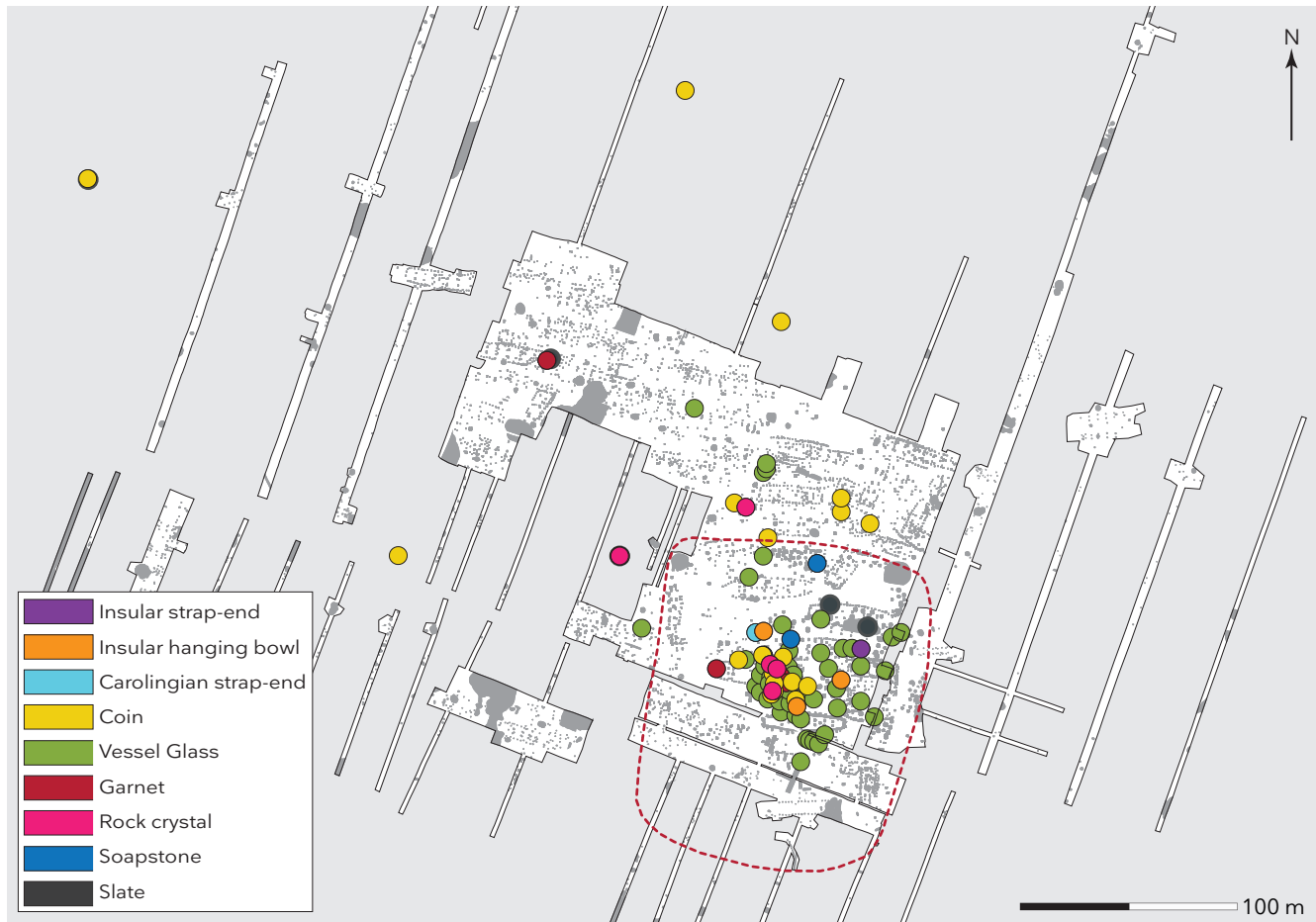


Fig. 2.22. Distribution map showing imported items. The extent of Farm 1 is indicated on the map. To the mapped items can also be added items that have been registered as, respectively, 'stray finds Pilehavegård' (two dirhams and a whetstone of slate), 'stray finds Østerhøjvej' (an Insular strap buckle, eight dirhams) and, finally, items simply described as 'stray finds' (one dirham, a whetstone, a rock-crystal bead and 11 sherds of glass). The stray finds do not skew the conclusion that the great majority of the imported objects were found within Farm 1. Illustration: Museum Southeast Denmark.

for fragments of glass vessels, which were found in large numbers and especially at Farm 1. Of the 138 fragments, 122 (88%) were found at Farm 1 in, respectively, plough soil (60%) and features (40%). However, the rest of the settlement also yielded individual finds of imported items. These are mainly coins, but also some sherds of glass (especially at Farm 3), raw garnets and one rock-crystal bead. The imported items are interpreted as expressions of the extent of contacts the inhabitants of Strøby Toftegård possessed and thus their role within the wider society. A large network of contacts may be regarded as an expression of a central function, with both social and political contacts maintained by means of visits and gift exchanges (see Bastrup, Chapter 7 for references).

Personal equipment

Personal equipment in the shape of jewellery (brooches, arm rings, pendants, necklace-spacers), strap ends, beads, keys,

combs, tweezers are well represented at Strøby Toftegård. In total, 98 brooches were found, which chronologically speaking span the Roman Iron Age until the end of the Viking Age. However, the clear majority can be dated to the Late Iron Age (94%). The brooches are found predominantly in the plough soil, and about one fifth of them stem from Farm 1. Brooches from the Late Germanic Iron Age and the Viking Age have approximately the same areas of distribution, and it is not possible on the basis of this to point out any areas with greater or lesser activity during the earlier or later parts of the period when the site was in use. Arm rings and necklace-spacers from the Late Germanic Iron Age were found in the area north of Farm 1, although the information for two arm rings and one necklace-spacer is limited to classifying them simply as stray finds. Pendants (four) and strap ends (seven), which are all stray finds and dated to the Viking Age, are distributed across a wide area. In contrast, beads and to some extent also keys were found

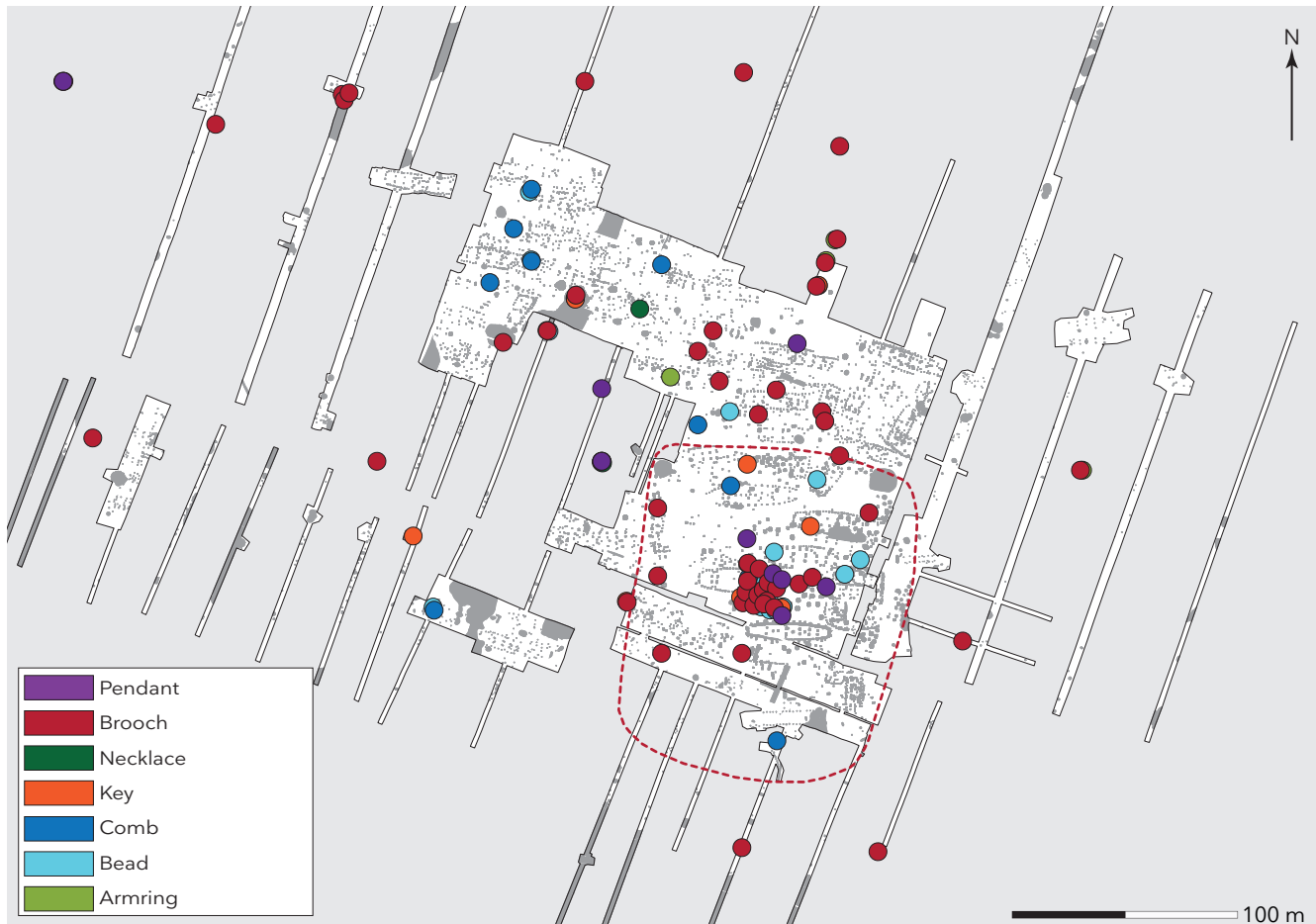


Fig. 2.23. Distribution map showing finds of personal equipment. The extent of Farm 1 is indicated on the map. Illustration: Museum Southeast Denmark.

primarily within Farm 1's area. Half of the beads were found in the plough soil in connection with sieving, but also pits, pit houses and postholes, as well as one well, yielded beads. Of the 11 keys found at Strøby Toftegård, six were discovered within Farm 1, and the rest to the north and west of Farm 1, with seven keys coming out of pits. Of the 12 fragments of combs, one-third were found at Farm 1 and mainly in features. Combs are not linked to any specific type of feature, but were found in postholes, pits, pit houses and wells, as well as cultural layers.

Generally, the distribution reveals that personal equipment is present at all farm units (Fig. 2.23), and that items from both the Late Germanic Iron Age and the Viking Age are to be found across large parts of the settlement. In many cases, however, between one-third and half of all items stem from Farm 1, while the rest are distributed across the geographically speaking larger surrounding settlement areas. The greater number of finds from Farm 1 arise partly from the excavation methods, but if only finds from features are considered, the difference remains and is thus regarded as genuine (see Fig. 2.20).

Trade-related items

The distribution of coins, weights and hacksilver at Strøby Toftegård is shown on Fig. 2.24. Both coins and hacksilver were found not only at Farm 1, but also at the surrounding farm units. The weights, all of which are stray finds, constitute the only type of item that cannot with certainty be linked to Farm 1. Five weights are registered as stray finds and their location within the site can thus not be determined. Those weights that can be placed on the site have a north-western distribution across an area (called Pilehavegård) that has only been investigated by means of trial trenches. Scattered structures have been recognised in the trial trenches, and the area thus seems distinct from the excavated part. Nonetheless, some metal objects were found in the plough soil from this part of the settlement. The central excavated area and Pilehavegård are separated by the road Østerhøjvej, whose course can be discerned in the same place on older maps, and the items from the plough soil of the Pilehavegård side of the road must therefore be assumed to stem from contexts belonging here, since they will not have been shifted as a result of modern cultivation. The items from Pilehavegård

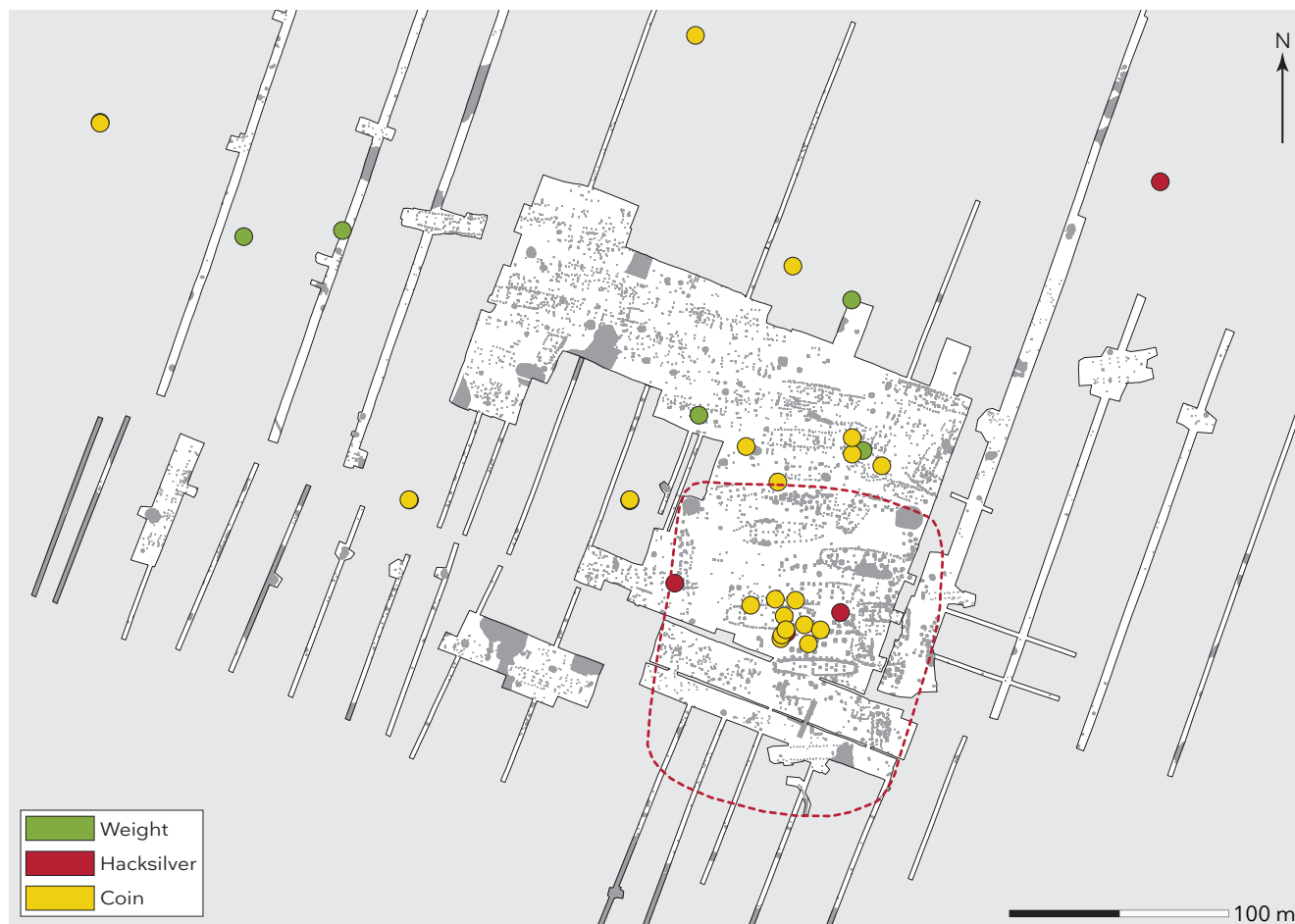


Fig. 2.24. Distribution map showing trade-related items: coins, hacksilver and weights. To this can be added finds described as, respectively, 'stray finds Pilehavegård' (five weights and two dirhams), 'stray finds Østerhøjvej' (one weight, two pieces of hacksilver and seven dirhams), as well as items simply described as 'stray finds' (one dirham, four pieces of hacksilver and five weights). The extent of Farm 1 is indicated on the map. Illustration: Museum Southeast Denmark.

include, for example, six brooches, five weights, one key, two dirhams and a pendant. Two of the brooches can be dated to the Late Germanic Iron Age and four to the Viking Age. The key, dirhams, the pendant and two of the weights can be dated to the Viking Age. Other items fall within a broader chronological frame spanning AD 500–1300.

The distribution of, for instance, the weights combined with the relatively scattered structures found in the trial trenches may indicate that the activities that took place at Pilehavegård were of a different kind than, for instance, those at Farm 1. Interpreting it as a trading area would, however, be stretching the evidence too far at present.

Weapons and equestrian gear

The category containing weapons and equestrian gear is dominated by arrowheads, with a total of 58 specimens found. Of these, the vast majority (77%) were found within Farm 1 (Fig. 2.25). The arrowheads were primarily found

in the plough soil in connection with sieving, and in most of the cases they can be dated to the Viking Age on the basis of typology (Baastrup, Chapter 7). The arrowheads may have been intended for hunting, but a survey of the bone material from the site reveals only a relatively small proportion of game. Apart from the arrowheads, two sword hilts were found, one of which can be dated to the Late Germanic Iron Age, while the other has a broader date within the Late Iron Age. The plough soil likewise yielded five, perhaps six, iron spurs. One of the spurs can be dated specifically to the Viking Age, while the rest fall within a broader chronological frame. The hilts were found on the outskirts of the settlement, while half of the spurs were found at Farm 1. Although the number of bits of weaponry is not exactly large, apart from the arrowheads, there is enough to reveal that warriors were present at Strøby Toftegård. Generally, weaponry is not often found in connection with settlements (Ulriksen 2018, 180).

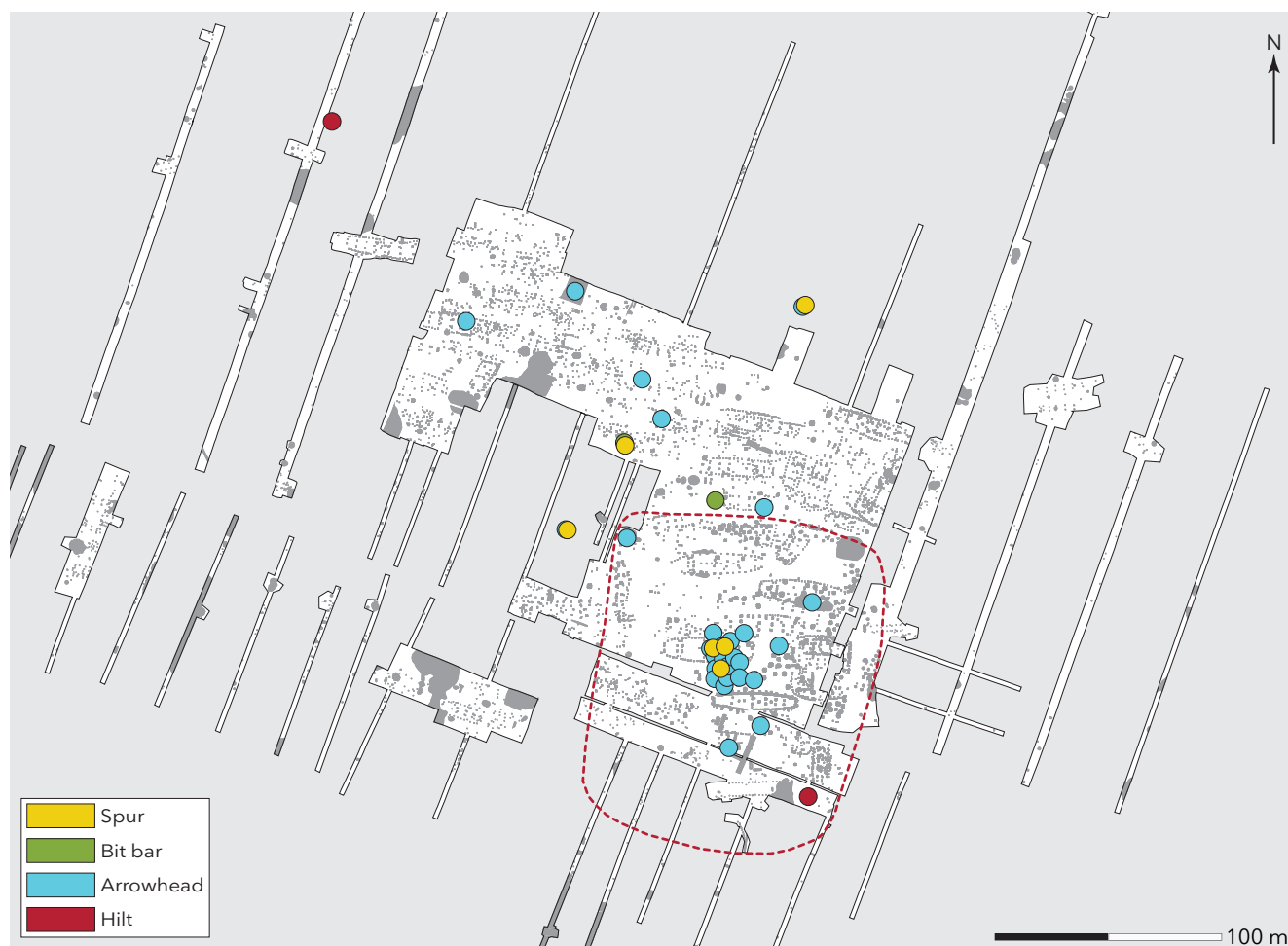


Fig. 2.25. Map showing the distribution of weapons and equestrian gear at Strøby Toftegård. The extent of Farm 1 is indicated on the map. Illustration: Museum Southeast Denmark.

Production waste and tools

At Strøby Toftegård, a number of items were found that point towards varied crafts taking place within the settlement (Fig. 2.26). Especially in the pit houses and the area belonging to Farm 1, spindle whorls and loom weights have been found. Just over half of the spindle whorls have a weight of 5–19 g, which indicates that they were well suited for the production of relatively fine threads. This can be interpreted as conscious production of fine textiles with high thread counts (L.G. Thomsen, pers. comm.). Traces of metalworking, like blacksmithing, in the form of slags and hammerscale have been found sporadically across large tracts of the site, but these, too, are overrepresented at Farm 1. Hammerscale was found in a soil sample from a pit (A30565) in connection with work on macrofossils. It cannot be excluded that other pits also contained hammerscale, but that this was not discovered since it is hard to detect by sight alone. In the pit that yielded the hammerscale, small fragments of raw garnets also were found,

which points in the direction of jewellery production. Two casting moulds – one of which seems to have been used for making a beak brooch – were both found within Farm 1.

There are also pieces of slag that may stem from glass-bead production. In total, five pieces of glass slag were found, three of them within a very small area belonging to Farm 1, while the remaining two came out of a pit house and from sieving of plough soil near the pit house.

The number of objects that can be linked to production is relatively low, and the distribution of them does not point in the direction of any specific workshop area within the settlement. It is, however, noteworthy that the textile tools have a wide distribution, while, for instance, traces of bronze casting (casting moulds and casting sprues) were found especially in association with Farm 1. This could indicate a differentiation between the various crafts, which may be interpreted as the occasional presence of craftsmen with the necessary knowledge for activities such as jewellery and bead production, which are concentrated around

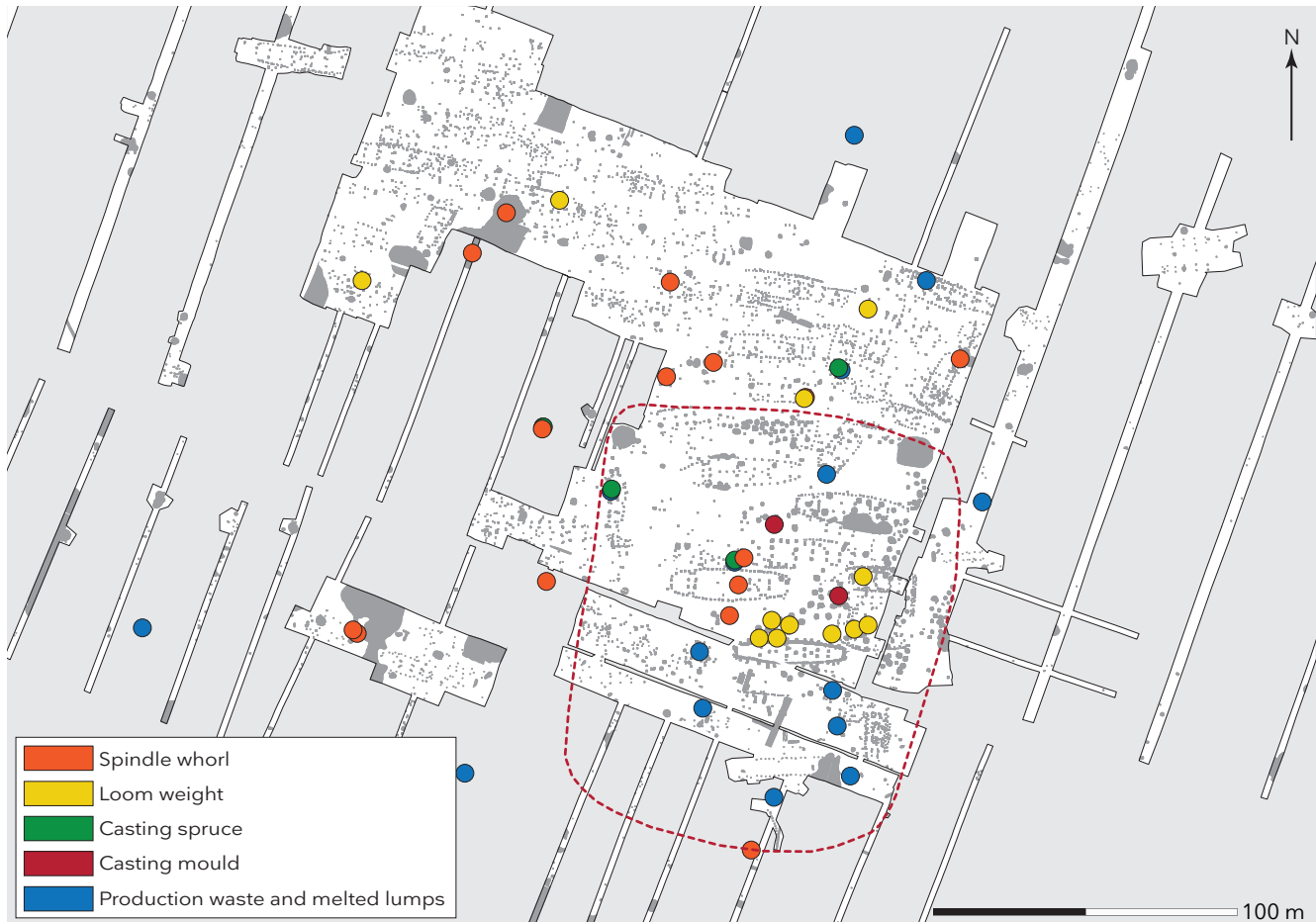


Fig. 2.26. Distribution map showing finds linked to production. To this can be added items described simply as 'stray finds' (two casting sprues, one spindle whorl of lead and one of sandstone, one piece of slag, eight lumps of melted copper alloy or lead). The extent of Farm 1 is indicated on the map. Illustration: Museum Southeast Denmark.

Farm 1 specifically, possibly also as special production. In contrast, textile production appears to have been carried out at the individual farm units, which suggests production for immediate needs, but nothing specialised.

Conclusion

During the excavations at Strøby Toftegård, the traces of a large settlement from the Late Iron Age were investigated. This survey of the settlement's structure, dating and development shows that the settlement existed between the mid-7th century up until just before the turn of the millennium and that it consisted of at least nine farm units, although not all of them were present at any one given time. Whether they were all independent production units remains unclear, since not all farm units have been completely uncovered. Despite significant variation, the survey shows that each farm unit consists of a main house, at least one smaller longhouse and possibly some small houses, including pit houses. Each farm also has a well associated with it. The farm units appear to

orientate themselves towards one another and to create a combined image of a coherent settlement, which centred on Farms 1 and 2, both of which existed throughout the lifespan of the settlement.

At the same time, Farm 1 stands out from the remaining farms both in terms of its physical structures, types of features, size and number of artefacts found there. The finds associated with Farm 1 suggest that this farm, apart from functioning as an ordinary unit of habitation just like the other farm units, was simultaneously home to various activities that went beyond everyday activities in the shape of special production (for example jewellery production, bronze casting and glass-bead production) and also to ritual activities and events represented by the finds of *guldgubber* and the many cooking pits. At the same time, the farm is located on the highest point in the landscape, a location that was at one time even enhanced through the creation of an artificial plateau, which gives it a dominant and central position in relation to the other farm units.

Everything considered, the survey of the settlement's structures, dates and developments paints a picture of a settlement consisting of a central magnate farm with surrounding farm units that are closely linked to it. In order to attain a better understanding of the connections and dynamics within the settlement, a closer look at the differences and similarities between Farm 1 and the rest of the settlement is necessary, and this will be pursued in the other contributions to this publication.

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Living in, with and around the longhouses at Strøby Toftegård: A biographical approach to longhouses in the Late Iron and Viking Age

Anna Severine Beck

Abstract

The purpose of this article is to present an interpretation of the nature of the Late Iron Age and Viking Age settlement complex at Strøby Toftegård based on an analysis of the longhouses as assemblages. As the conditions of the archaeological material makes functional interpretations impossible, the analysis is based on a biographical approach. The analysis is structured around five phases within the biography of the longhouses: the planning, building, inhabiting, maintaining and abandonment of the longhouses. For each phase, relevant architectural elements are analysed with the aim of identifying patterns of similarities and differences. The patterns are brought together in an interpretation of the character of the settlement at Strøby Toftegård, which consists of several contemporary dwelling units. One dwelling unit stands out from the rest of the settlement and this reflects the fact that the inhabitants of this particular unit had a privileged position compared to the rest. Along with this privileged position probably followed communal commitments towards the surrounding society. In the analysis, it is demonstrated that the longhouses cannot be understood without paying attention to the relations between the longhouse and the people living in, with and around the longhouses.

Keywords: Longhouse, assemblage, house biography, building, inhabitation, abandonment

Houses provide a rich and important window onto human life in the past, shedding light on both fundamental aspects of everyday life and the general norms of the surrounding society (e.g. Rapoport 1969; Bourdieu 1970; 1977; Samson 1990; Pearson & Richards 1994; Carsten & Hugh-Jones 1995; Brück & Goodman 1999; Ingold 2000; Blier 2006; Buchli 2013; Bille & Sørensen 2016a). In an archaeological context, a house is typically defined by its architecture, that is, the physical structure of the house; however, involving the assemblage theory presented by Manuel DeLanda can entail a more fruitful and richer way of perceiving and studying the house (DeLanda 2006; 2016). According to the assemblage theory, a house can be perceived as an

assemblage composed of heterogenous components that, besides the physical structure, includes people, things, events, experiences and meanings in and around the house and the ways in which they relate to and interact with each other (DeLanda 2006, 95–100; Normark 2009; Lucas 2012, 187–8; 2014; 2016; Bille & Sørensen 2016b; Mímisson 2016). In other words, studying houses does not just involve describing and interpreting the construction itself, but also how people lived in, with and around the house over time.

Taking this as its theoretical background, the following article aims to present a detailed analysis of the longhouses found in the settlement of Strøby Toftegård based on a biographical rather than a traditional typological approach. The



Fig. 3.1. Overview of the excavations at Strøby Toftegård. All houses identified in the excavations (longhouses and smaller buildings) are highlighted. The dot on the map shows the geographical location of Strøby Toftegård. Illustration: Museum Southeast Denmark.

analysis of the longhouses contributes to the study of the settlement complex in its attempt to respond to the overall question of this publication: ‘What is Strøby Toftegård?’

Strøby Toftegård, which is located in the northern part of Stevns, Eastern Denmark, is a large and rich settlement complex dated to the Late Iron Age and Viking Age (AD 650–1000) (Woller 1998; 2001; Sørensen 2000; Beck 2013; 2014a). At first glance, the settlement seems to fit well into the existing interpretation models of the period, but a closer study shows that the settlement also questions and challenges the conventional interpretations.

The excavations at Strøby Toftegård have revealed a large number longhouses and smaller building constructions of which the majority belong to the Late Iron Age and Viking Age settlement (Fig. 3.1). When presenting large data sets, the typical approach within Scandinavian settlement archaeology has been to describe the houses by classifying them according to general categories or house types rather than

describing each house individually (e.g. Stoumann 1980; Tesch 1993; Jørgensen & Eriksen 1995; Artursson 2005; Sørensen 2011; Eriksen 2015). Categorisations and typologies serve in these cases to describe large quantities of data in a systematic way (Hill & Evans 1972, 232–3.; Adams & Adams 1991, 10–11). Often, however, categories or house types are not only perceived as analytical entities but also as entities mirroring meaningful properties and differences in the past, whether these pertain to chronological age, function, social status or other relevant conditions.

In the early presentations of the longhouses from Strøby Toftegård, a distinction was made between ‘main houses’ and ‘outbuildings’, and the houses were presented according to these two categories (Tornbjerg 1998a; 1998b; Woller 1998). The categories were based on an assumed functional division between main houses, interpreted as dwelling houses, and outbuildings, interpreted as houses with varied functions, being stables, workshops, barns or sheds, but

not dwellings. These categories were applied despite the fact that the functions of the houses could not be further assessed due to their poor preservation (Woller 1998, 98). Only five houses were categorised as main houses. They were all of similar construction and between 37 and 40 m long (Tornbjerg 1998a, 221). The rest of the longhouses in the settlement were designated as outbuildings. They were of more varied constructions and between 10 and 28 m long (Tornbjerg 1998a, 222–224). This categorisation of the houses led to an interpretation of the settlement as consisting of a central farm in five phases surrounded by an extensive contemporary working area. The interpretation of the longhouses played an essential role in the perception of the settlement at Strøby Toftegård as a magnate farm and a local power centre.

The two categories used in the interpretation of the longhouses from Strøby Toftegård have rightfully been criticised for not being explicitly defined (Artursson 2005, 142). The categorisation is based on theoretical (though unexplained) notions about the assumed functions of the longhouses, but a more specific link to the architecture or archaeological record other than the mere size of the houses is lacking. As a consequence, houses of similar construction and character exist in both categories but have been categorised differently simply due to differences in size.

Similarly, the interpretation of the five main houses as representing a magnate farm seems to be based mainly on the number, variety and quality of the artefacts found in the area and on the size of the houses (Tornbjerg 1998a, 230–232), but this interpretation has not been further linked to the longhouses despite the fact that some scholars have argued that social status was clearly expressed in the architecture of this period (e.g. Jørgensen 1998; Söderberg 2003; Bican 2010; Jessen 2012; Christensen 2015). What archaeologically defines a main house compared to an outbuilding, or a magnate longhouse compared to a ‘common’ longhouse within the settlement of Strøby Toftegård therefore still remains to be defined.

As I see it, the response to this critique cannot be found by refining the existing categories, because the problem lies within the very approach to the archaeological record and the existing categorisation of the houses from Strøby Toftegård. Generally speaking, the approach represents a *top-down* approach in which the categories are defined prior to the analysis, and the archaeological record is then fitted into these. Ideally, the categories should be defined in dialogue with the archaeological record. But when, as in the case of Strøby Toftegård, the categories are based on universal, albeit not really clarified, notions of function and status in the Late Iron Age and the link to the actual archaeological record is limited, there is a great risk of repeating known (yet debatable) interpretations and not learning anything new from the current archaeological record (Brück & Goodman 1999, 3 ff). This is not a problem specific to Strøby Toftegård

but one that has been recognised and debated more widely within Scandinavian settlement archaeology (e.g. Fabech *et al.* 1999; Ejstrud & Jensen 2000, 125; Carlie 2005, 14–15; Møller, Qvistgaard & Jensen 2011; Eriksen 2015, 30).

As a consequence, I will abandon the existing categories in the following analysis of the longhouses from Strøby Toftegård and instead seek an alternative way into the material by pursuing a *bottom-up* approach to the archaeological record (McFadyen 2013; Nativ 2017). The starting point will be the actual information present in the record, and even though predefined notions cannot be fully avoided, the archaeological record will be the primary guide for the analysis. As will be argued later, the conditions of the archaeological material encourage a focus on the temporal dynamics of the longhouse rather than a spatial or functional focus. Therefore, a biographical perspective has been chosen to explore the archaeological record of Strøby Toftegård as an alternative to conventional categories and house types.

A biographical perspective is focused on mapping the life story of the individual longhouse (e.g. Bailey 1990; Tringham 1995; Gerritsen 1999; 2003; Bukkemoen 2015). In this way, the biographical perspective yields a distinct focus on the temporal dynamics of the longhouse. Compared to the conventional categories and house types that focus on the physical features that define the house, the biographical perspective focuses on the processes that create, maintain and maybe change the properties of the longhouse (van Oyen 2015, 70). In other words, through a biographical approach, the perspective is changed from the *being* of the longhouse to the processes of *becoming* the longhouse (van Oyen 2015; Gosden & Malafouris 2015; Bille & Sørensen 2016b, 17). Function and social status are no longer perceived as properties that lie inherent within the structure of the longhouse, but as properties that are dynamically created in the relation with the longhouse. The thesis is that different engagements with the house have resulted in different biographies that mirror properties of the original houses in the past (Gerritsen 2003, 38). Besides exploiting the information present in the archaeological record more directly than the conventional categories, the biographical perspective opens new possibilities for understanding the role played by the longhouses in the dynamics of the settlement. In the end, such a perspective will contribute to the deeper understanding of the nature of the settlement at Strøby Toftegård.

In the following, I will begin by introducing the archaeological record and the background to the biographical perspective that represent, respectively, the foundations and the framework for the analysis. The ensuing analysis will be structured according to specific phases in the biography of the longhouse, more specifically the planning, the building, the inhabitation, the maintenance and the abandonment of the longhouse, in an attempt to grasp the

‘mess of daily life’ heuristically. Each phase of the longhouses will be analysed in relation to specific architectural elements relevant to the particular phase, materials and spatial patterns in the archaeological record. In the final discussion, I will bring the identified patterns together in a general discussion of the character of the longhouses and their role in the settlement at Strøby Toftegård. Even if the discussion will be specifically related to issues relevant to the case of Strøby Toftegård, it is my hope that the approach will inspire similar analyses of settlement contexts more broadly and in that way contribute to the general development of Scandinavian settlement archaeology.

Longhouses and the archaeological record

A bottom-up approach to the longhouses is closely related to the basic question of what the actual archaeological record constituting the longhouses consists of and how it should be understood as an archaeological phenomenon. The first step is therefore to characterise the archaeological record, as the conditions of the material remains comprise the basic premises for the analysis and discussion.

The large Late Iron Age and Viking Age settlement at Strøby Toftegård was found and investigated during the period 1995–2013. In all, 46,020 m² have been excavated, which equals 29% of the estimated settlement area of 160,000 m². A total of 109 longhouses and 14 smaller buildings have been identified. Even though this cannot be claimed to be the total number of buildings in the original settlement, the excavated areas indicate that the most densely inhabited areas of the settlement have been covered and the selection of longhouses is representative of the settlement. Specific information relevant to the analysis of the longhouses is collected in Appendix A. Detailed information on all house constructions (longhouses and smaller buildings) can be found in the house catalogue, which can be accessed online here: <https://natmus.dk/cultsites/>.

In this context, a *longhouse* is used as a morphological and descriptive term referring to any post-built building that is longer than it is wide. ‘Longhouse’ is thus aimed directly at the physical construction and the house form rather than descriptive of the spatial organisation (Jørgensen & Eriksen 1995, 17), interpreted function (Tornbjerg 1998a, 222) or size (Artursson 2005) of the building.

Some buildings are only identified by one pair of identical roof-supporting posts (e.g. Houses 26 and 43). Because examples of well-preserved longhouses with only one pair of inner posts (e.g. Houses 40 and 52) have been found in the settlement, the ‘one-pair constructions’ are interpreted (with appropriate uncertainty) as the same type of longhouse construction – only less well preserved. It seems unlikely that the one-pair constructions should represent poorly preserved pit houses as the orientations of the pit houses and the one-pair constructions are consistently contrary to each other (pit houses are oriented east–west and

the one-pair constructions north–south). Furthermore, the constructions are mainly located in the same areas as other smaller longhouses.

The constructions that do not fall within the longhouse definition because they are of a markedly different construction are categorised as ‘small buildings’. The smaller buildings are: Houses 63, 85, 87, 92, K217, K411, G101, G102, G103, G104, G105, G106, G301 and G302. These are either pit houses or square constructions with four posts, which were probably open storage constructions for hay or similar materials rather than actual buildings (Zimmermann 1992). The four-post constructions are distinguished from the longhouses consisting of two pairs of posts by being of similar length on all four sides. The longhouses are characterised by a shorter distance between the two posts in the single pair than the distance between the pairs. All longhouses have been included in the analysis (also House 58 though its connection to the Late Iron Age settlement is uncertain), whereas the small buildings are not further discussed in the article.

The majority of the longhouses were recognised during the excavation, while a few more longhouses were deciphered from the excavation plans afterwards. In connection with the processing of the data for this publication, some of the original interpretations of the longhouses have been revised (e.g. Houses 10, 11 and 12) and sequences of longhouses have been further unravelled (e.g. House K303 has become House K303 and K305).

The longhouses represent a diverse group of constructions with distinct variations in dimensions, construction details, layout, orientation and house form (Fig. 3.2). Elements of the architecture will be described in detail later, but, in general, the character of the longhouses can be categorised as ‘typical Late Iron Age and Viking Age architecture’ with many examples of longhouses having curved long sides, large distances between the inner posts, slanting buttresses, straight gables and varied orientations (Skov 1994; Schmidt 1994; Artursson 2005). The majority of the houses are built within a three-aisled building tradition, and the architecture of both small and large longhouses has features in common with longhouses at contemporary settlements both in Western Denmark (e.g. Sædding, Trabjerg, Omgård and Vesterbygård) (Stoumann 1980; Nielsen 1980; Jørgensen & Eriksen 1995; Eriksen *et al.* 2009) and in Eastern Denmark and Scania (e.g. Bøgelund, Lejre, Västervång and Lockarp) (Tornbjerg 1991; Heimer, Ifverson & Persson 2006; Carlie 2008; Christensen 2015).

However, there are also features in the architecture that do not fit the existing house typologies. The use of middle posts in combination with traditional three-aisled construction, open gables and stone-filled wall trenches seem to be more or less specific features of the longhouses at Strøby Toftegård (Fig. 3.3). Furthermore, the presence of buttresses in longhouses at Strøby Toftegård, dated as far back as the middle of the 7th century (e.g. in House 5), does not match

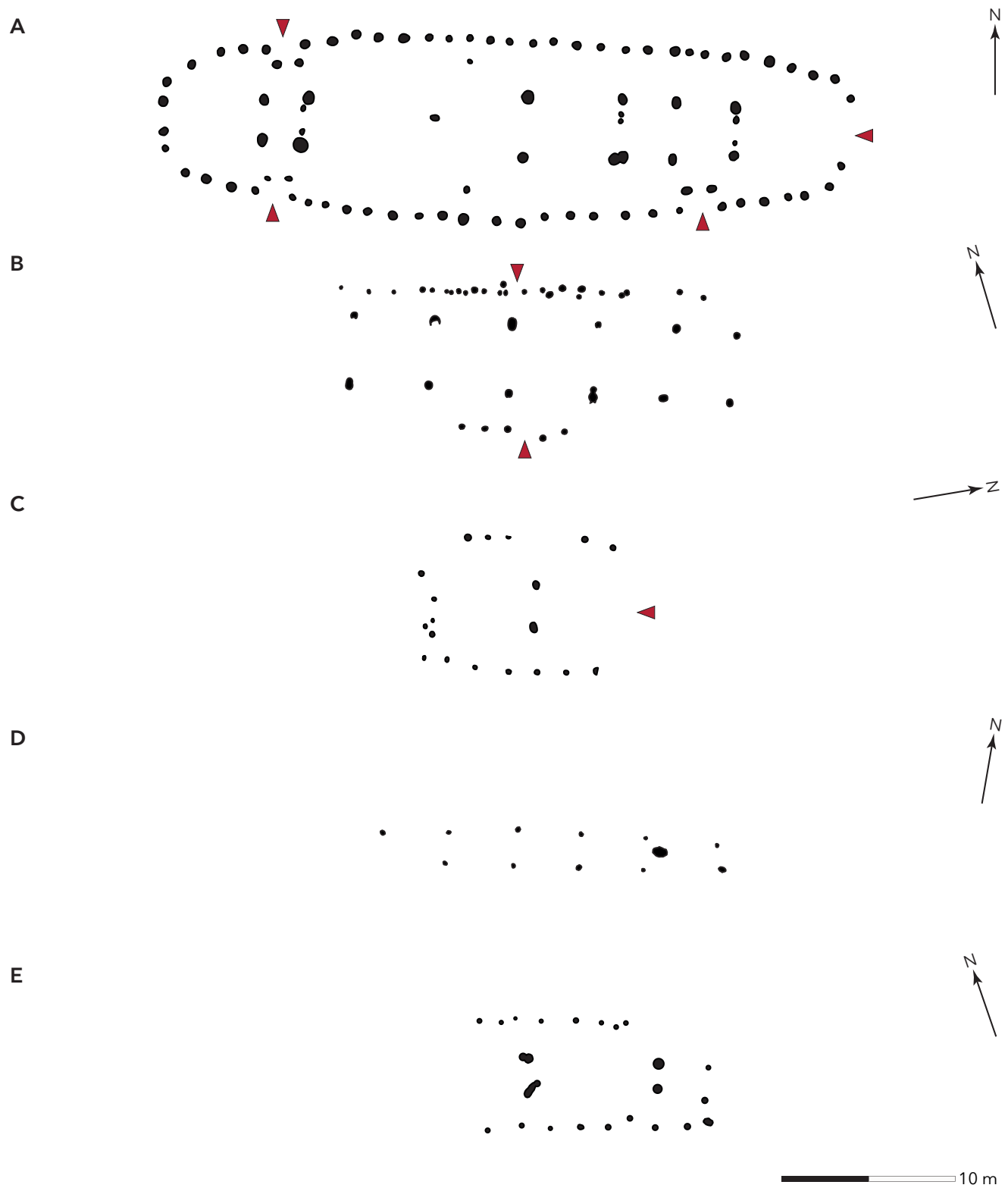


Fig. 3.2. A selection of longhouses from Strøby Toftegård showing the variation of longhouse architecture: A) House 2, B) House 11, C) House 40, D) K216, and E) K314. All houses are reproduced to the same scale and have been aligned to the same orientation. Entrances are marked with triangles. Illustration: Museum Southeast Denmark.

the traditional typological dating of the introduction of buttresses, which aligns it with the Trelleborg house type of the 10th century. In that way, the architecture challenges the existing typologies for the period.



Fig. 3.3. House 4 during excavation. The curved walls, straight gables and outer buttresses are typical of Late Iron Age architecture. The stone-filled wall trench and the roof-supporting structure with middle posts are particular to the architecture at Strøby Toftegård. House 4 was the best-preserved house at the site. Nevertheless, there were no floor layers or fireplaces preserved in the house. Photo: Museum Southeast Denmark.

The dating of the longhouses is composite and consists of archaeological, stratigraphical and scientific dates. The archaeological dating is based on finds and typological arguments. The stratigraphical dating is based on the vertical stratigraphy (what cuts across what) as well as the horizontal stratigraphy (what can physically exist at the same time). The scientific dating is done on organic materials originating from the foundation of the houses. ^{14}C -datings have been conducted on bone material (sheep/goat and cow) or on macrofossils (Fig. 3.4, Table 3.1). When possible, the constructions have been dated with more than one ^{14}C -dating to reinforce the validity of the result (Villumsen 2013, 20). The dating endeavours to show that the majority of the longhouses belong to the period AD 650 to 1000. There are no signs of longhouses belonging to the period after AD 1000, which is seen as the time where the settlement was abandoned. These dates will be used as a general chronological framework, and the dating and chronology of the longhouses will not be discussed further in this article. A discussion of the dating process and the chronological development of the settlement is found in Beck & Kildetoft Schultz, Chapter 2 in this publication.

An additional important temporal dimension of the longhouses is the lifespan of the post-built longhouse. The subject has been much discussed within archaeology as the information is essential for understanding the dynamics of the longhouses, but there are no ways of objectively measuring it, except through experimental observations (e.g. Reynolds 1995; Zimmermann 1998; Hansen 2015). One factor influencing the lifespan of the houses is how

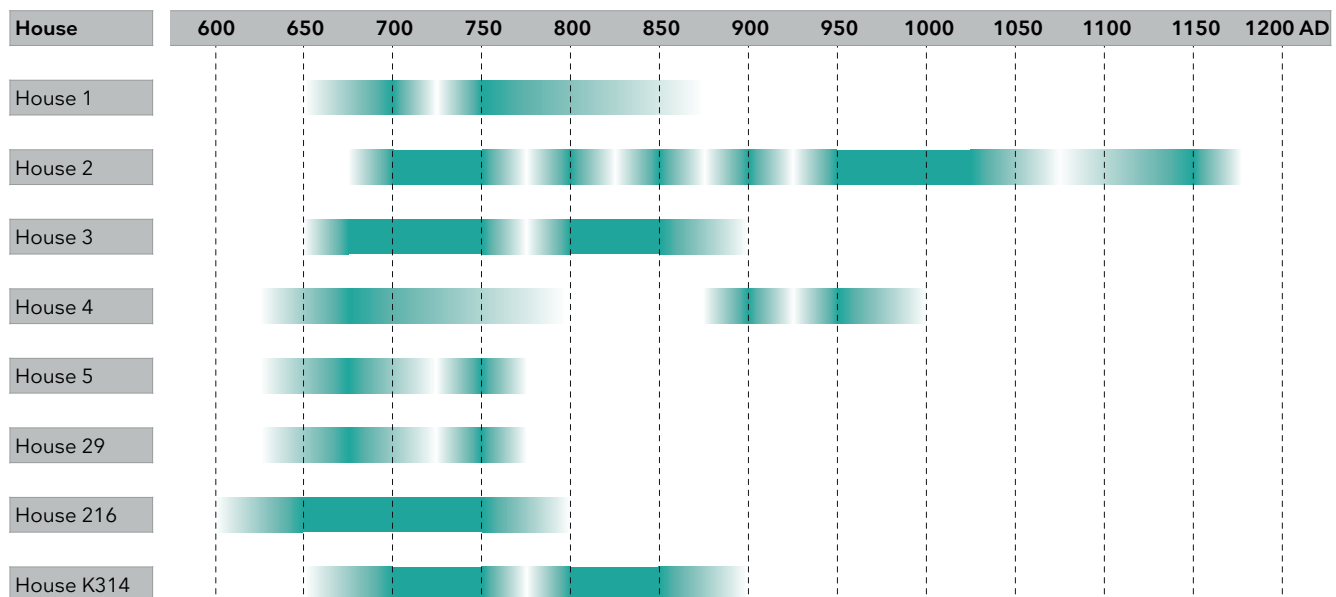


Fig. 3.4. Overview of radiocarbon-dated longhouses at Strøby Toftegård (darker areas 68% probability, brighter areas 95% probability). For more details – see Table 3.1. Diagram: Museum Southeast Denmark.

Table 3.1. Radiocarbon dates made on material from longhouses at Strøby Toftegård.

House	Feature (soil sample)	Sample-no	Material	Radiocarbon age BP	Cal AD 68.3%	Cal AD 95.4%
1	10204 (P6)	UBA-31343	<i>Bos taurus</i> , vertebra	1283±41	675–724 739–768	656–778 791–827 840–863
2	10420 (P7)	UBA-31344	<i>Ovis Capra</i> , radius	1046±53	901–921 951–1028	883–1052 1080–1152
2	10426 (P8)	UBA-31345	<i>Capra/Ovis</i> , tibia	1242±35	688–777 792–803 843–853	680–782 786–878
3	11714 (P9)	UBA-31346	<i>Ovis aries</i> , radius	1231±46	710–746 764–779 789–871	673–891
3	10008 (P10)	UBA-31347	<i>Capra/Ovis</i> , costa	1290±31	674–715 743–765	664–770
4	10670 (P11)	UBA-31348	<i>Capra/Ovis</i> , diaphysis	1117±28	894–929 939–970	779–788 869–995
4	10747 (P12)	UBA-31349	<i>Bos taurus</i> , molar	1338±28	653–685	646–713 744–765
5	10442 (P13)	UBA-31350	<i>Capra/Ovis</i> , molar	1331±33	654–690 750–761	647–722 740–767
5	10241 (P14)	UBA-31351	<i>Bos taurus</i> , metacarpus	1307±31	664–695 700–710 745–764	657–728 737–769
29	11628 (P16)	UBA-31487	<i>Bos taurus</i> , molar	1330±31	655–690 751–760	648–720 741–766
K216	10294 (P38)	Beta-429154	Oat	1260±30	685–770	670–775 790–800
K216	20408 (P52)	Beta-429155	Barley	1330±30	660–680	650–715 745–765
K216	20413 (P54)	Beta-429156	Barley	1390±30	640–660	610–670
K314	30679 (P168)	Beta-429161	Barley	1220±30	725–740 770–780 790–870	690–750 760–885
K314	30665 (P163)	Beta-429162	Rye	1270±30	680–770	670–775
K314	30687 (P170)	Beta-429163	Rye	1240±30	715–745 765–775	680–880

long the earthbound posts last in the ground before they rot. The process of decomposing begins rather soon after a post has been fixed in the ground, particularly in the zone where soil and air meet (Zimmermann 1998, 50). Observations of modern reconstructed longhouses with posts set in the ground have shown that decomposition happens rather quickly (within the first 10–20 years of the building's life) (Reynolds 1995, 21–2; Hansen 2015, 101–2). Exactly how quickly the post will rot completely depends on the species of wood, the quality and dimensions of the timber as well as the character of the subsoil (Zimmerman 1998, 55; Hansen 2015, 97). But the decomposing process is not the only factor defining the lifespan. Modern reconstructed houses

also show that the longhouse construction had a certain stability within itself, and rotten posts do not necessarily mean that the house collapses (Reynolds 1995, 23; Hansen 2015, 101). For instance, at the experimental research centre of Sagnlandet Lejre, there are reconstructed longhouses that have been standing for more than 50 years (built in 1965) due to regular replacement of posts.

All in all, the lifespan of the longhouses at Strøby Toftegård is estimated to be between 40 and 75 years based on the quality (dimensions) of the timber, the number of replaced posts and the fact that the subsoil consists of clay with bits of chalk which slows down the rotting process (Zimmerman 1998, Tab. 2). With a human generation

estimated at around 30 years and a typical life may be 50 years long, the lifespan of a house generally lasted longer than one generation. In some cases, people could even be born, grow up and die in the same house, or inherit a house from relatives.

All longhouses are recognisable due to the systematic position of foundational postholes and wall ditches. No remains of the actual house construction or floor layers have been preserved, and only in one longhouse (K216) was the bottom of a fireplace discovered. Traces of internal features were not identified in any other longhouse. The record of the longhouses is in that sense generally fragmented, but the degree of fragmentation still varies. Some longhouses include wall posts, gables, partition walls and doorways, so that the full layout of the house can be deduced from the excavation plans, whereas other longhouses are identified solely by the roof-supporting postholes and nothing more. Archaeological finds related to the houses are sparse and only found in the archaeological features in the subsoil, which means it can be problematic to link them directly to activities in the house (Milek *et al.* 2014, 145). Because of the current state of the archaeological record of the longhouses, with no internal features, floor layers and only few artefacts, it is not tenable to try to deduce the activities within the houses directly from the material, and, in that sense, the archaeological record can say little directly about the function or social status of the individual house.

Instead, I will focus on the archaeological features that constitute the longhouse itself and on what they tell us about the house (McFadyen 2013, 136). The majority of the longhouses at Strøby Toftegård consist of postholes, and each posthole contains a wealth of information. Firstly, the distribution of postholes reveals the physical layout of the longhouse. Secondly, the posthole contains a stratigraphy with layers, cuts and interfaces as traces of the *chaîne opératoire* that created the specific posthole (Pauketat & Alt 2005, 217; Beck 2017). Thirdly, the number of postholes in a construction demonstrates repairs and reorganisation of the house within its lifetime. Finally, the archaeological record also shows part of what happened before and after the existence of a house, and this indirectly says something about the engagement with the house. All in all, the archaeological record includes information about events, actions and processes linked to the history of the individual longhouse and how people in and around the longhouse engaged materially with it over time.

Despite the poor preservation conditions, the archaeological record is rich in traces of the dynamic development of the individual longhouse from what can be extracted from the excavated features. In that way, the archaeological record encourages an analysis of the temporal dynamics of the house rather than a spatial or functional analysis of activity zones and specific functions of the house.

A biographical approach to the longhouses

To exploit the information held in the archaeological record fully and make the temporal dynamics of the longhouse explicit, I have chosen a biographical approach for the analysis of the longhouses. In the following, I will describe the biographical approach and how it will be used in the analysis.

The biographical approach was originally developed within the field of anthropological consumption and commodity studies (Appadurai 1986; Kopytoff 1986). From there, it was adapted to archaeological studies of material culture and, relevant to this article, also to archaeological studies of houses (*e.g.* Bailey 1990; Tringham 1995; Gerritsen 1999; 2003; 2008, Gosden & Marshall 1999; LaMotta & Schiffer 1999; Bukkemoen 2015; Lucas 2016).

Fundamental to the biographical approach is the notion that all objects have a unique biography, a life history of their own (Lucas 2005, 106; Joy 2009, 545). The object, in this case the longhouse, ‘ages’ over time and goes through different life stages – birth, life and death. All stages are equally important in the creation of the longhouse, as the biography of a house contributes to giving the house meaning for people who live in, with and around the house (Kopytoff 1986, 67; Lucas 2005, 56; Gerritsen 2008, 147; Joy 2009, 545). In the case of the longhouse, the meaning of the longhouse is created not only through the building of it and its material presence, but also through its history, what activities it has housed, who has inhabited it over time and the memories and stories connected to it (Gosden & Marshall 1999, 172). An old house with a long and complicated history can thus have a different meaning than a newly built house, even though they are built in physically very similar ways.

The background for applying the biographical perspective to archaeological studies of houses has varied. In the study of formation processes, the biographical perspective has been used as a tool to identify the processes impacting and affecting the archaeological record (*e.g.* Schiffer 1987; LaMotta & Schiffer 1999). Focus has been on how different life stages of a house, such as use, decay, abandonment and afterlife, have affected and shaped the archaeological record rather than the house biography itself. Because of the essential role of the abandonment and afterlife of a house in the formation of the archaeological material, more attention has been paid to these phases in the studies (*e.g.* Cameron & Tomka 1993; LaMotta & Schiffer 1999, 22–24). Experimental studies of house building processes are also essentially biographical by specifically studying the production, techniques, resource consumption and social contexts of the building process; in other words, the *chaîne opératoire* of the house (*e.g.* Hansen 1964; Lund & Thomsen 1981; Draiby 1991; Rasmussen 2007; Beck *et al.* 2007). For obvious reasons, the primary focus in these studies has

been on the planning and building process rather than the use and subsequent decay of houses.

Taking inspiration from anthropological studies, where a close connection between the household and the house has been observed (e.g. Kopytoff 1986, 67; Bloch 1995), the biography of the house has also been used as a means to study the social biography of the household in prehistory (e.g. Bailey 1990; Tringham 1995). Fokke Gerritsen's studies of Late Bronze Age and Iron Age longhouses in the Netherlands constitute an illustrative example of this perspective used in an archaeological context similar to Strøby Toftegård (Gerritsen 1999; 2003; 2008). The longhouses of this period were short-lived (20–25 years) and often abandoned after one generation (Gerritsen 2003, 39). Gerritsen uses his house biographies to argue that there was a close link between the biography of a house and the life course of the household. When a new household was established, a new house was built, and when the household died, the house died with it. The building phase, the inhabitation and the abandonment of a house play central roles in these studies, and this differentiates biographical studies from more conventional spatial studies of activity zones and settlement functions that focus solely on the use period of the house (Gerritsen 2008, 148).

In the context of this analysis, I will concentrate more directly on the biography of the specific longhouses at Strøby Toftegård as an inherent part of the assemblage of the longhouse as a concept. The assemblage of the longhouse consists of a heterogeneous collection of components, including people in and around the house and the ways in which they relate to and interact with each other in ongoing processes of creating, maintaining and changing the assemblage of the house (DeLanda 2006; 2016; Lucas 2016). In that way, a study of the biography of the longhouses can be used as an analytical method able to describe the processes inherent to the assembling and disassembling of the longhouse; the *becoming* of the assemblage (van Oyen 2015; Gosden & Malafouris 2015; Bille & Sørensen 2016b, 17). The physical structure of the longhouse is an active component in this. In the same way as the house is created by people, the house creates situations for people to engage with – whether it is in terms of the spatial layout of the house, the symbolism of the architecture or the decay of the building materials over time (Tringham 1995, 97; Gosden & Marshall 1999, 169; Gerritsen 2008, 146). The biography is the result of how people actively related to the house at different stages, such as how the inhabitants engaged with the house over time and which strategies they chose in order to overcome the challenges of each life stage of the house. Against that background, the thesis is that differences between houses, whether functional or in terms of social status, are simultaneously a result of the physical construction of the house and of how people relate to the houses in practice. The aim of the analysis is not to

present the complete biography of each longhouse as this is an unattainable – and not necessarily fruitful – goal. Instead, the aim is to use the analysis of the unique biographies to identify general patterns of similarities and differences in the biographies of the longhouses (Tringham 1995, 98; Gerritsen 2003, 38). More specifically, the aim is to investigate whether similarities and differences in longhouse biographies can be used in a broader interpretation of the character of the settlement complex at Strøby Toftegård.

An analytical framework

The analysis of the longhouses at Strøby Toftegård is structured around specific phases in the history of each longhouse. The phases are planning, building, inhabiting, maintaining and abandoning the longhouse, respectively, whereas the afterlife of the houses will be discussed in details in Beck (Chapter 17). The planning and the building phases represent the stages where initial thoughts, building traditions, needs and ideas materialise, the inhabitation and maintenance of the house represent stages where the house is used, repaired and lived in and, finally, the abandonment of the house represents the end of the house. Even though they are presented as a linear process moving from the birth (planning and building) to the death (abandonment) of the house, in reality, the phases overlap, taking place simultaneously and are physically entangled with each other (Holtorf 2002; Lucas 2005, 117; Joy 2009, 543). The activities associated with each phase can encourage or discourage, even undo and erase, activities linked to other phases. Here, the division into phases is used as a heuristic model rather than necessarily as representative of how people in the past experienced life in the houses. Particularly, the planning and building phases and the inhabiting and maintaining phases, respectively, are not necessarily experienced as separate in practice, but for the sake of the analysis, the phases will be retained to make the conclusions clearer. I am aware that reality was blurred and messier.

In practice, the analysis is constructed around specific architectural elements of the longhouse, instead of seeing the house as one entity. The argument is that different architectural elements say something about different life stages of the house. For example, the building materials were significant in the building process but of less importance during the abandonment of the house, and the access routes within the house were more relevant during the inhabitation phase but less so in the building phase. In the analysis, each element will be described and compared in order to search for patterns of similarities and differences in the architecture of the longhouses and in how people around the house handled the challenges posed by each specific phase.

Accordingly, I have chosen to focus on the roof-supporting structure and the size of the longhouse in my exploration of the planning phase, the timber and construction details

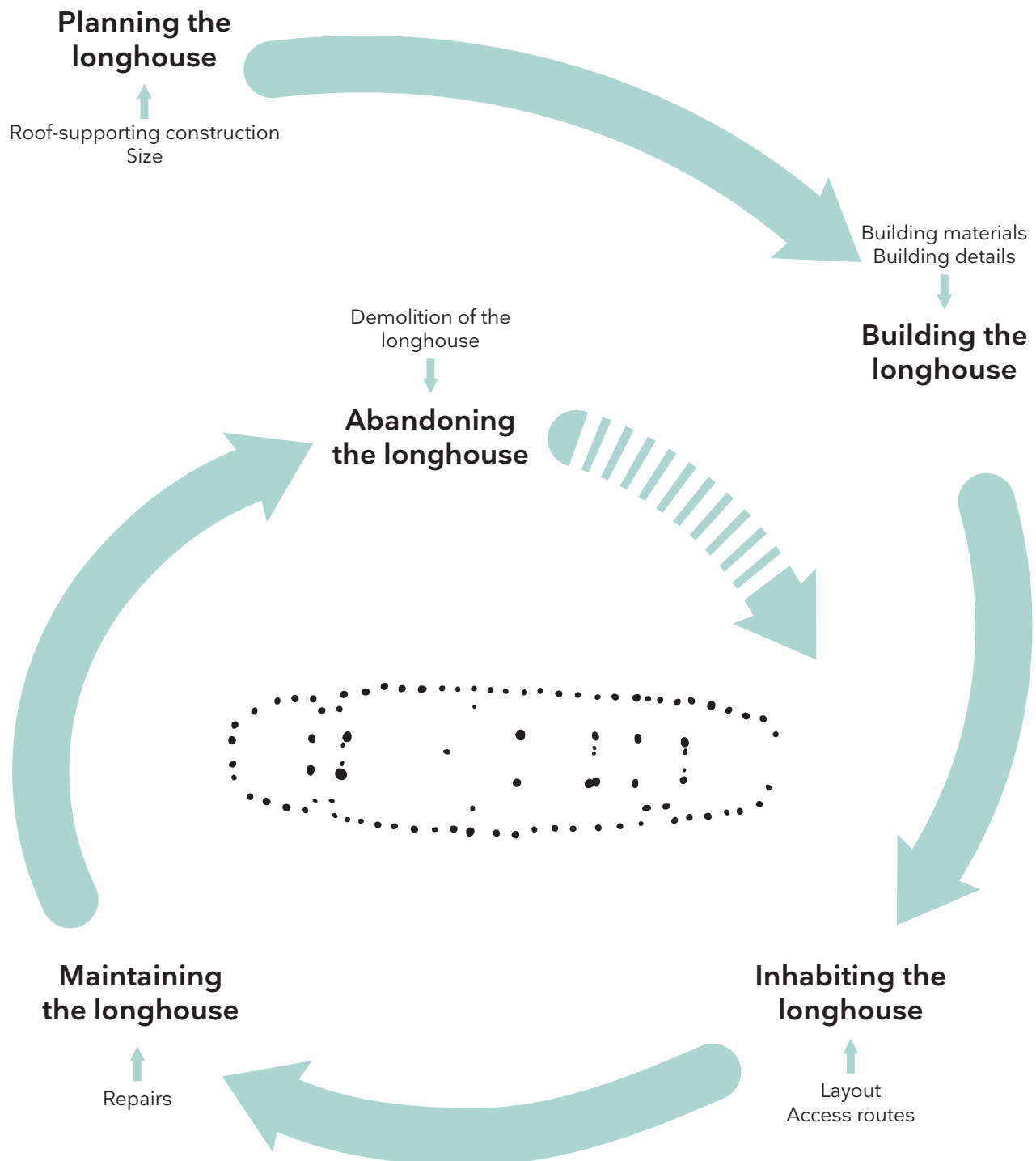


Fig. 3.5. Analytical model for the biographical analysis of the longhouses at Strøby Toftegård, illustrating the life cycle of a house linked to the specific architectural elements that mirror the life phases of the longhouse. Illustration: A. S. Beck.

of the house when investigating the building phase, the layout and access routes of the longhouse for the phase of inhabitation, repairs for the maintenance phase and, finally, I have looked at the demolition of the longhouse for the abandonment phase (Fig. 3.5). The choice of architectural

elements will be further clarified in connection with each phase of the analysis. Generally, however, my choices here have been guided by the archaeological record of Strøby Toftegård and the elements present in this specific case. With a different archaeological record and in a different

context, other architectural elements might be more obvious or relevant to include.

Planning the longhouse

The planning of a longhouse is defined as the phase that lies before the house was actually built. In principle, the planning begins the moment the first thoughts about the new longhouse arises and ends when the house has been built. Thus, the planning phase probably stretches into and overlaps with the building phase.

The planning phase is mainly characterised by activities that cannot be directly observed in the archaeological record as it concerns the mental process taking place prior to the actual building process, in the form of thinking about, designing and planning the longhouse. Nonetheless, this had decisive consequences for the final appearance of the longhouse (Lucas 2005, 107). If aids such as drawings or models were used in the process, nothing has been preserved. However, the planning phase was not necessarily structured in the same way as a modern architectural planning process, but probably unfolded more *ad hoc*, with either one builder or the builders collectively having a good idea of what the end product would be like, but no concrete and preconceived blueprint of the final longhouse construction (Ingold 2000, 173; 2013, 47–59; Blier 2006; Latour & Yaneva 2008, 85; Mímisson 2016, 213). How long a period of time the typical planning phase covered is not known, but some planning ahead of the building process was needed, not least in terms of the collection and preparation of building materials, *e.g.* timber had to be found, felled and prepared.

In the case of Strøby Toftegård, the architectural elements relevant for investigating the planning phase are the roof-supporting structure and the size of the longhouses. Both factors need to be thought out ahead of the actual building process and are expressions of existing building traditions. The roof-supporting structure has to be considered at the moment the house is conceived, as it is the first element to be raised (Draiby 1999; Poulsen 2005). The roof-supporting structure constitutes the core of the longhouse and defines the rest of the construction, the shape and size of the house. The size of the longhouse likewise has to be planned prior to the commencement of the building process as it is partly dependent on the roof-supporting structure and also impacts on the need for and consumption of building materials.

The roof-supporting structure

Identification of the roof-supporting structure of the longhouses is based on the postholes located during excavation. Due to the great variety in preservation conditions and architectural details, the analysis of the roof-supporting structure only includes the posts raised inside the house

but leaves out probable gable posts in order to make the material comparable across differences of preservation. In some houses, though, the gable posts may still play a central role in the roof-supporting structure.

The majority (90%) of the longhouses at Strøby Toftegård have a traditional three-aisled construction consisting of pairs of posts raised inside the house (Appendix A). No houses featured a two-aisled construction and only one house had a one-aisled construction (House 41), though both construction types occur in the period (*e.g.* Skov 1994; Hansen 2015). Another longhouse (House K312) also had a one-aisled construction, but this was dated to AD 375–540 and was thus not part of the Late Iron Age – Viking Age settlement. House K312 is therefore not included in the analysis, but further information about it can be found in the house catalogue.

A smaller group of longhouses has a three-aisled construction with one or several middle posts located between the pairs of posts in what looks like a combination of a three- and a two-aisled construction (Fig. 3.6). As the combination of middle posts and a three-aisled construction is an architectural feature particular to the longhouses of Strøby Toftegård, it is relevant to devote some attention to discussing this type of construction in more detail, including whether the middle posts should be considered an integrated part of the roof-supporting structure or not.

Middle posts have been observed in 11 longhouses at Strøby Toftegård (Houses 2, 3, 4, 9, 13, 16, 29, 45, 50, 69 and 90) (Appendix A). The longhouses with middle posts are found distributed across most of the settlement (Fig. 3.7). The majority of the longhouses have one middle post as part of the construction, House 45 has two and Houses 3 and 4 have four middle posts. In general, the middle posts are located centrally in the space where the largest span between two pairs of posts in the roof-supporting construction is found. In Houses 3 and 4, two of the middle posts are found in this space.

The location of the middle post(s) suggests that the middle post(s) could be a necessary part of the construction when creating large distances between the roof-supporting pairs inside the longhouse. But there are examples of longhouses in the settlement that feature the same spatial distribution of the pairs that make up the roof-supporting structure (and even larger distances in between) but where no middle posts have been found (*e.g.* Houses 1 and 24). The middle posts in that sense cannot have been a vital element for the roof-supporting structure.

When looking at the archaeological features, the shape and fill of the postholes of the middle posts are similar to the other roof-supporting postholes, and this similarity indicates that the middle posts were raised at the same time as the other posts in the construction. The middle posts should therefore not be seen as a later addition or a repair of the roof-supporting construction but as an original component.

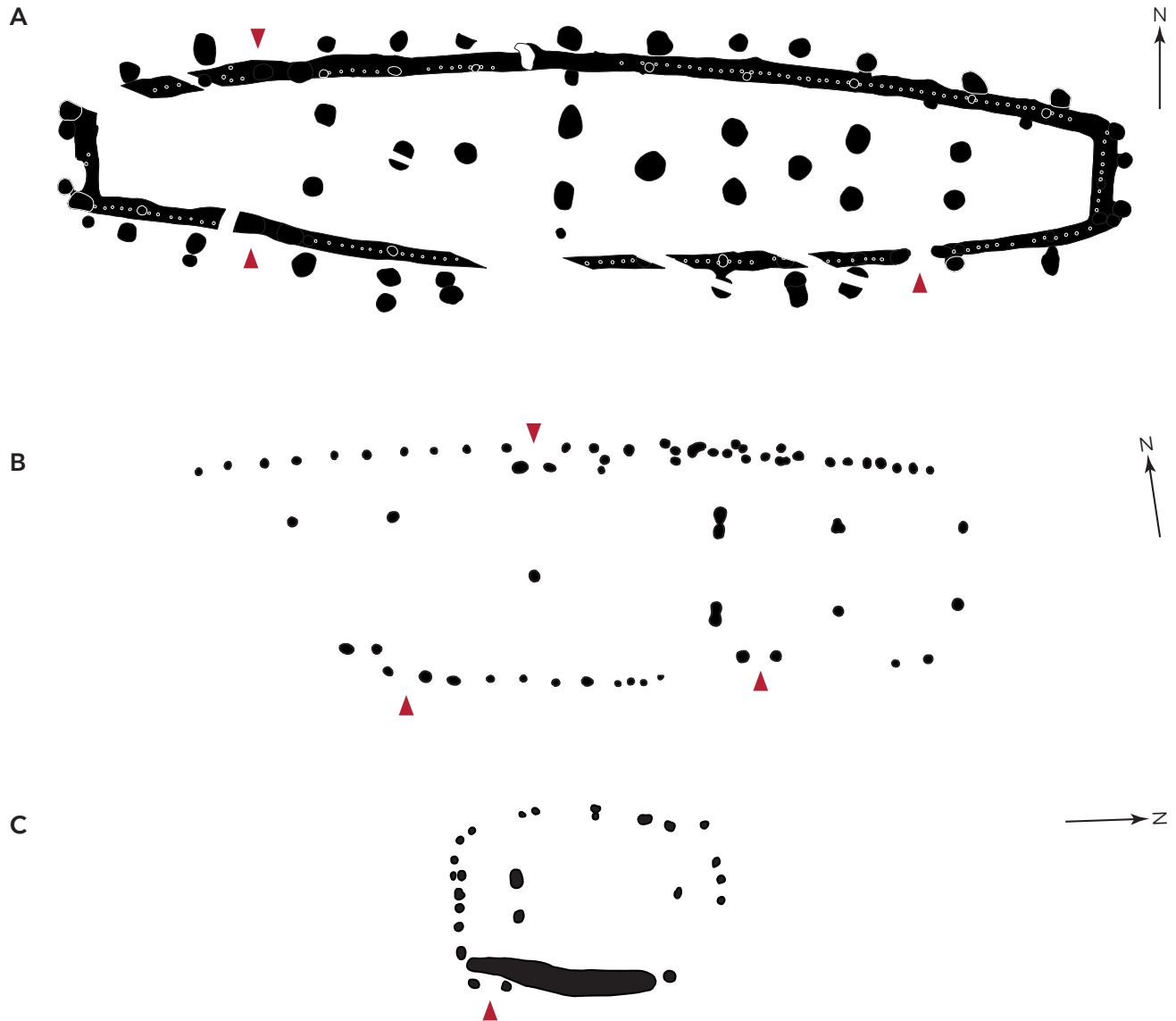


Fig. 3.6. Three examples of longhouses with a three-aisled roof-supporting structure in combination with middle posts: A) House 4, B) House 13, and C) House 90. All houses have been reproduced to the same scale and aligned to the same orientation. Entrances are marked with triangles. Illustration: Museum Southeast Denmark.

However, the dimensions of the holes for middle posts (diameter and depth) are mostly slightly smaller than the other postholes, particularly in the longhouses that only have one middle post (Fig. 3.8). This difference suggests that the timber did not carry as much weight as the other posts in the roof-supporting structure. All in all, the middle posts do not seem to be an essential element for the supporting structure but rather an addition that had other functions than the purely supportive ones.

Searching the archaeological record for similar constructions to widen the perspective on the phenomenon, middle posts are known from a few other sites dated to the same period. In House XL, Lejre, and House XX, Runegård in

Bornholm, middle posts have been identified centrally in one of the gable rooms (Fig. 3.9A) (Watt 1983; Christensen 2015). The location of the middle post in the far end of the house is quite different from the location of the middle posts at Strøby Toftegård, and the function may thus not have been the same. In the longhouse at Runegård, the distance of a little more than 8 m between the roof-supporting construction and the western gable may suggest that the post had a supporting function in this particular longhouse, whereas the distance between the last pair of posts and the gable in the longhouse at Lejre is much shorter (2.9 m). The post is similar to the other roof-supporting posts but seem superfluous for the construction. Against that background, it is not



Fig. 3.7. The distribution of longhouses with middle posts at Strøby Toftegård. Houses without middle posts are marked in light blue. Illustration: A. S. Beck.

possible to draw any certain conclusions about the role of the middle post in relation to the roof-supporting structure in these two cases.

At Ågård near Bjæverskov, Zealand, a longhouse (K2) with a significant middle post has recently been excavated (Fig. 3.9B) (Kristensen 2015; Kildetoft Schultz 2017). This middle post is placed at the centre of the longhouse and has the same (if not greater) dimensions as the traditional roof-supporting postholes. An extension of the posthole has furthermore been interpreted as a ramp for raising the post, indicating a post of significant dimensions. The dimensions suggest the post had a supporting function (Kristensen 2015, 11). No ramps were found for the other roof-supporting posts, however, which could indicate that the middle posts had a different function from the other posts. Furthermore, the Ågård longhouse had a stone-filled wall trench and slanting buttresses, which are features also found in House 4 at Strøby Toftegård.

Finally, longhouses with a combination of three-aisled construction and one or more middle posts have been found at settlements in Ståstorp, Hilleshög and Stora Bernstorp, Scania (Artursson 2005, 131; Strandmark & Ifversen 2008). The longhouses at Ståstorp and Hilleshög each have one middle post in a similar location as the longhouses at Strøby Toftegård: centrally in the largest room of the longhouse. The longhouse at Store Bernstorp has three middle posts (Fig. 3.9C). Two of these are located in a central room and on either side of a hearth. The third middle post is located in a room at the western end of the house. The two centrally located middle posts may have been placed so as to make up a 'third' leg in a pair of posts within the structure. This location of the posts is different from the middle posts at Strøby Toftegård which, except in House 45, more or less always stand alone. None of the posts in the house at Stora Bernstorp have been excavated, so their dimensions and character are unknown, and their role in the roof-supporting

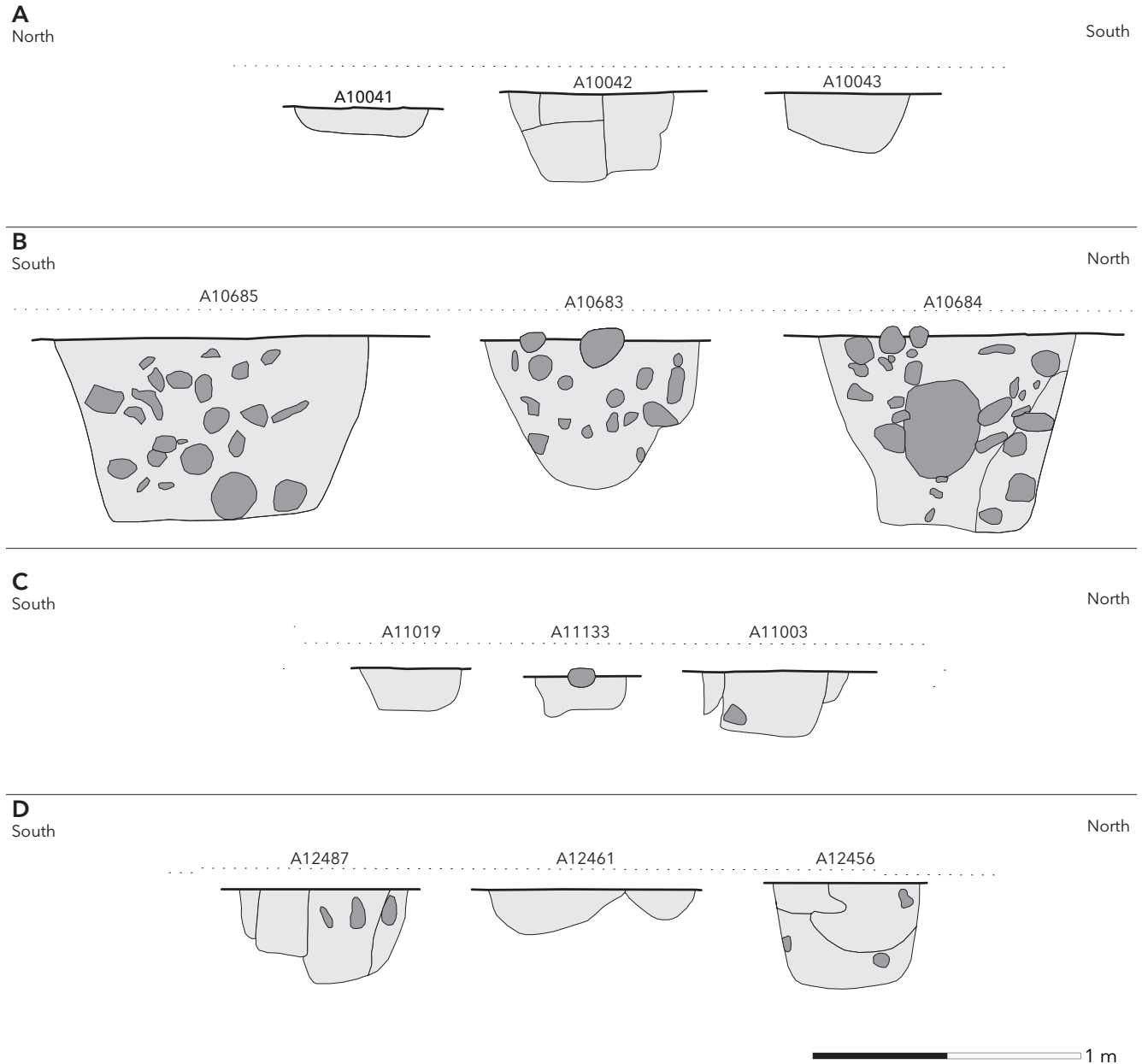


Fig. 3.8. A selection of posthole sections belonging to roof-supporting posts and middle posts from the same house: A) House 3, B) House 4, C) House 13, and D) House 50. The middle posts are the sections in the middle placed between the sections of a pair of roof-supporting posts. Drawing: Museum Southeast Denmark.

structure cannot be investigated further. In the settlement, other houses have been uncovered with similar roof-supporting structures but without middle posts, and that in itself suggests that the middle posts were not necessary for the supporting structure.

On the whole, middle posts in combination with a three-aisled construction remain a rare phenomenon and therefore not a very well-investigated phenomenon either. From the examples presented here, it seems probable to conclude that the middle posts were not a vital part of

the roof-supporting structure, since longhouses of similar construction both with and without middle posts have often been found together. The middle post rather seems to be an extra feature that could be added or left out. Alternatively, it is a possibility that the middle posts served a completely different function, maybe in relation to the hearth as could be suggested by the often-central location of the post within the largest room. A location on either side of the hearth was observed in House 4 at Stora Bernstorp. Paying more attention to this specific construction element and

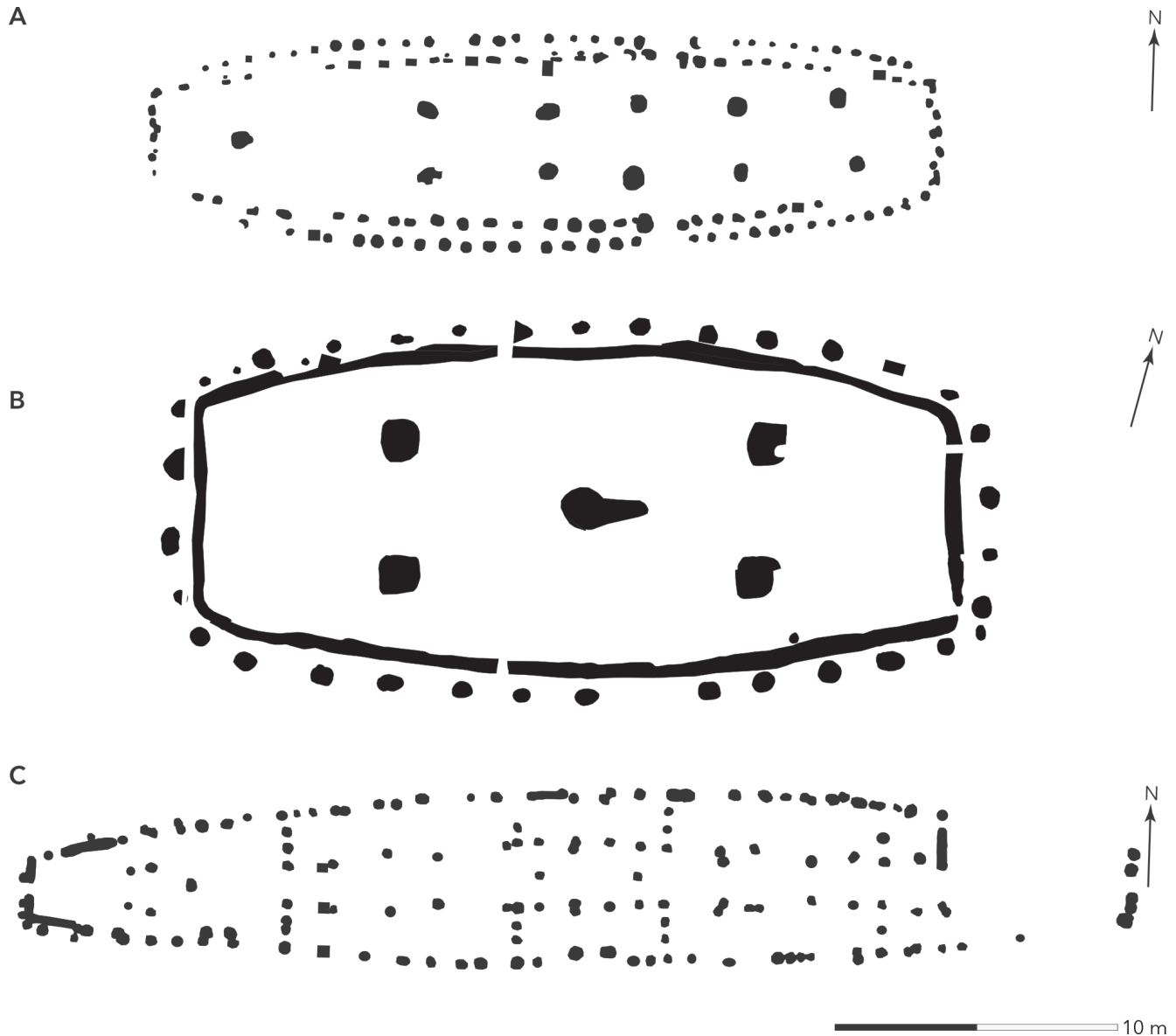
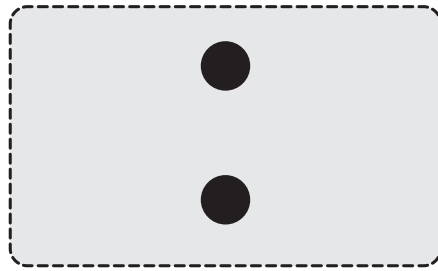


Fig. 3.9. Examples of longhouses with middle posts in sites contemporary with Strøby Toftegård. A) House XX, Runegård, Bornholm (redrawn after Watt 1983). B) House K2, Ågård, Zealand (redrawn after Kildetoft Schultz 2017). C) House 4, Stora Bernstorp, Scania (redrawn after Strandmark & Ifversen 2008). All houses have been reproduced to the same scale and aligned to the same orientation. Illustration: A. S. Beck.

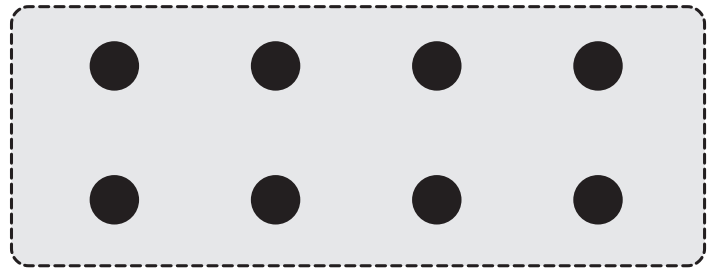
systematic investigations of it in the future will hopefully bring us closer to an answer.

From the analysis and discussion of the roof-supporting structure, it can be concluded that the longhouses with middle posts were three-aisled longhouses that simply had one or more middle posts added. The architectural principle behind more or less all the longhouses was thus the three-aisled construction. However, the longhouses were not identical because the three-aisled construction comes in many variations. Six main principles for the three-aisled construction could be identified based on the number of

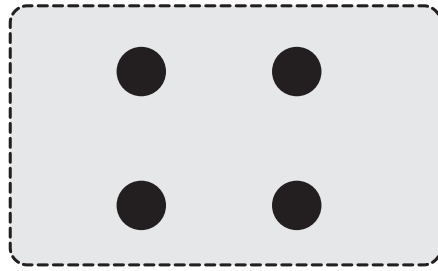
posts and their internal distribution within the roof-supporting structure (Fig. 3.10). Longhouses that are only partly uncovered have been left out of the analysis, but all other three-aisled longhouses are included (94 longhouses in total) (Appendix A). Among the longhouses at Strøby Toftegård, principle 2 (houses with two pairs of posts with equal distance between the pairs as to the gables) is the most common (27 longhouses) and principle 1 (houses with one pair of posts) is the least used (9 longhouses) (Fig. 3.11). The distribution across the remaining construction principles was relatively even. All principles are widely present



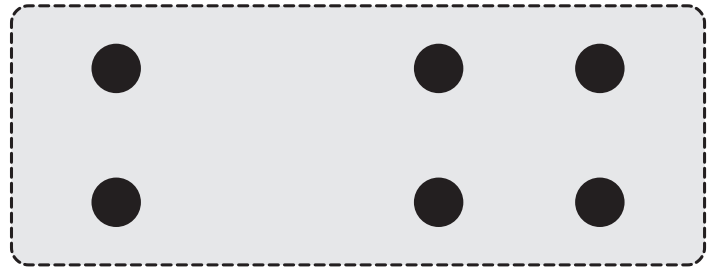
Principle 1: houses with one pair of posts.



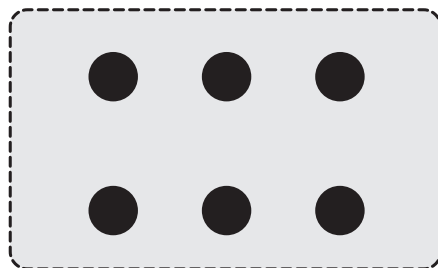
Principle 4: houses with four or more pairs of posts and similar distance between the pairs.



Principle 2: houses with two pairs of posts with equal distance between the pairs as to the gables



Principle 5: houses with three or more pairs of posts, where the distribution of the pairs is uneven.



Principle 3: houses with three pairs of posts and similar distance between the pairs



Principle 6: houses with two pairs of posts with significantly larger distance between the pairs than the distance to the gables

Fig. 3.10. Six principles of roof-supporting structure as identified in the three-aisled longhouses at Strøby Toftegård. Illustration: A. S. Beck.

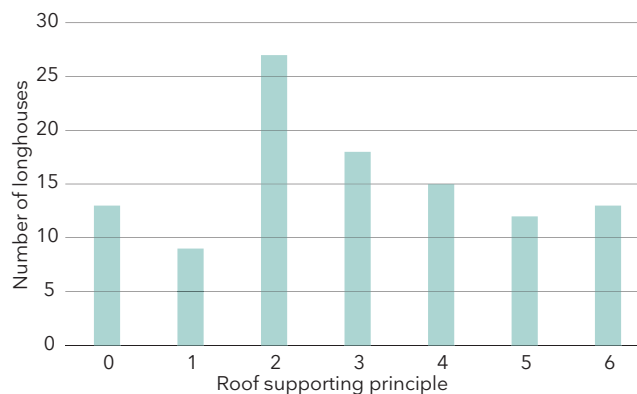


Fig. 3.11. The distribution of the six principles of roof-supporting structure (see Fig. 3.10) in the longhouses at Strøby Toftegård. $N = 94$. Diagram: A. S. Beck.

within the settlement (Fig. 3.12), and no particular spatial groupings could be identified.

Size

Because the preservation conditions at Strøby Toftegård make it problematic to measure the width of the houses, the size of the houses has been defined according to the length of the longhouses. In some cases, no traces of the walls are preserved, others present challenges in terms of identifying the posts on the long sides of the house as either wall posts or buttresses.

The length of the longhouses at Strøby Toftegård can only be measured or estimated with certainty in cases where at least one gable is identified. In longhouses where only one gable has been located, the full length is estimated from the notion that the building originally had a more or less symmetrical layout, as do most of the longhouses where

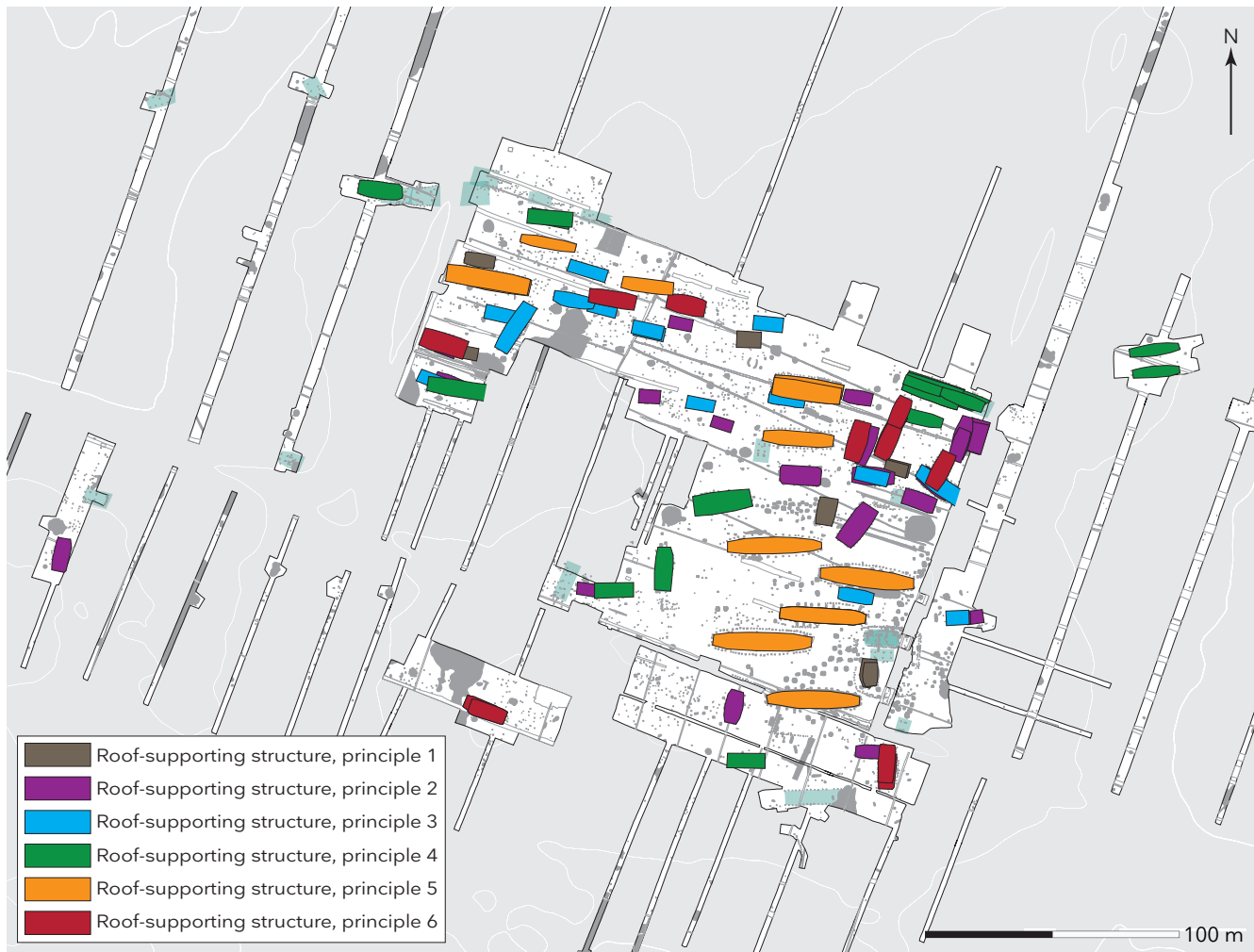


Fig. 3.12. The distribution of the six identified roof-supporting principles in the settlement of Strøby Toftegård. Houses where the roof-supporting principles could not be identified are marked in light blue. Illustration: A. S. Beck.

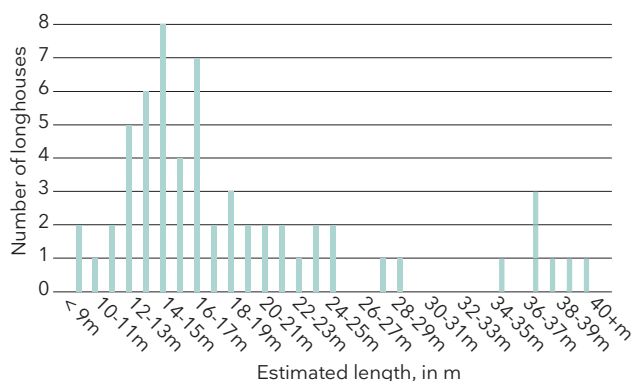


Fig. 3.13. The distribution of longhouses at Strøby Toftegård in relation to their estimated length. $N = 60$. Diagram: A. S. Beck.

both gables have been identified. In all, the total length can be measured or estimated in 60 longhouses (Appendix A). The length varies considerably (Fig. 3.13). The shortest

longhouse is 9.2 m (House 16) and the longest is 39.5 m (House 2). Based on the length, four size classes can be deduced: very large longhouses (more than 34 m) (Houses 1–5, 50–51), large longhouses between 23 and 30 m (Houses 11–13, 23–24, 29), longhouses between 17 and 23 m (11 longhouses in all) and smaller longhouses, less than 17 m. The last group contains the highest number, with 36 longhouses in total. The four size classes are spread across most of the settlement (Fig. 3.14), though there is a tendency for the largest houses to be gathered in the south-eastern part of the settlement.

The aim of the planning phase was to combine existing building traditions, norms and ideals with the specific needs and wishes of the inhabitants at the same time as taking the available knowledge, tools and building materials into account. The challenge was to find the right compromise that fulfilled the wishes of the inhabitants and that the surrounding society would understand and accept as a ‘proper longhouse’.

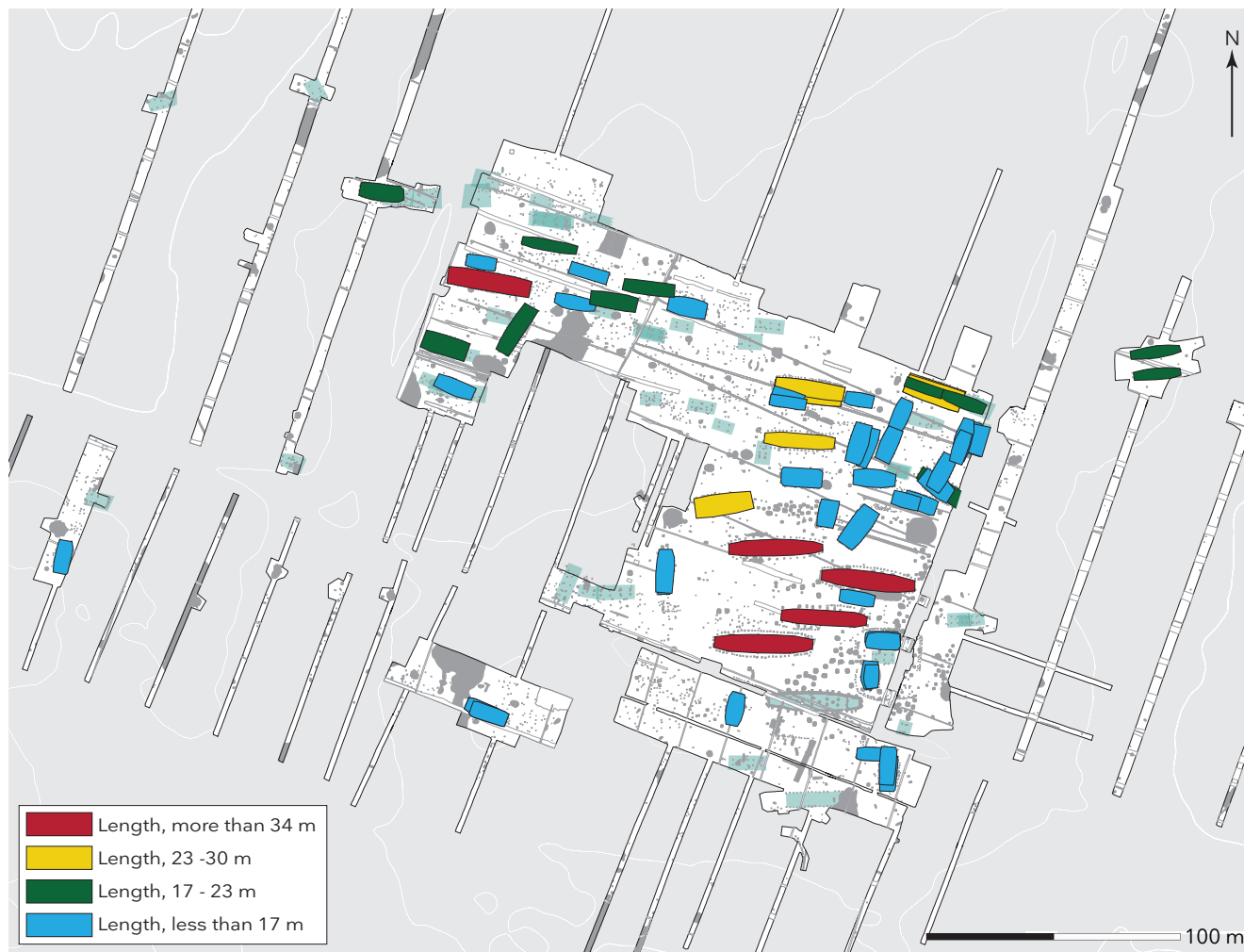


Fig. 3.14. The distribution of the four identified size classes in the settlement of Strøby Toftegård. Houses where the length cannot be measured or estimated are marked in light blue. Illustration: A. S. Beck.

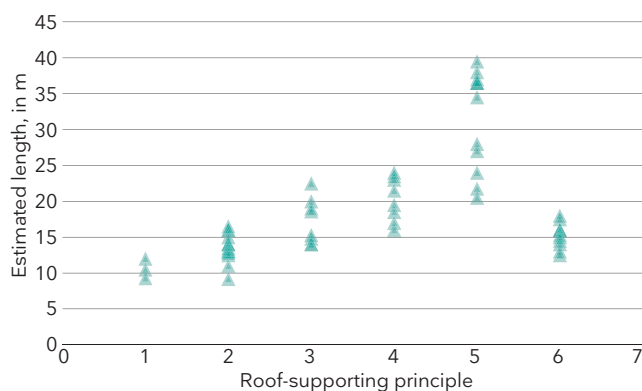


Fig. 3.15. The distribution of the longhouses according to the estimated length of the longhouse and the six identified principles of the three-aisled construction. $N = 58$. Diagram: A. S. Beck.

The lack of variation within the general architecture of the roof-supporting structure shows that the building tradition of the three-aisled longhouse was strong in the

case of Strøby Toftegård and only few compromises were accepted. Compromises could be made by, for instance, adding middle posts or building a one-aisled construction, but in general, the constructions give the impression of a relatively conservative planning process.

Instead, patterns of similarities and differences can be observed within the three-aisled tradition where six principles for the roof-supporting construction have been identified and within the size of the longhouses where four size classes can be defined. When juxtaposing the principle of the roof-supporting construction with the length of the house, there is a natural correspondence between the number of pairs in the roof-supporting structure and the length of the house (Fig. 3.15). But it is noteworthy that the same construction principle can be observed in houses of quite different sizes. For instance, construction principle 5 is used in houses that are 17–23 m, 23–30 m and more than 34 m long. The choice of construction principle thus cannot be a direct consequence of the size of the house but must reflect

a conscious decision in the planning process, most probably in relation to the specific use of the house. Conversely, the choice of size for a given house does not in principle depend on the intended use of the house. The variation in size within the same type of construction principle is therefore more likely to mirror differences in the possibilities present in the current building situation than differences in use.

Interestingly, it seems that, even though extensive repairs and replacements of building elements can be observed in the longhouses at Strøby Toftegård, no later extensions or redesigns have been noted in any of the longhouses. It thus seems that, when a longhouse had been planned (and built), the inhabitants did not reengage with the planning phase. Instead, the longhouses remained more or less the same throughout their lifetimes; apparently regardless of whether the use of the house changed.

Building the longhouse

The building phase within the biography of a house is defined as the time when the house materialises and attains a physical form. The phase begins when the first foundations are dug and ends when the house is ready for inhabitation. In that sense, the building phase overlaps with the planning phase in one end and the inhabitation phase in the other end. However, it can also be argued that the building phase never really ends, but is an ongoing process, overlapping with the maintenance phase of the house (Ingold 2010, 161–2; 2013, 47–48).

The building process is characterised by building activities connected to raising and constructing the longhouse, such as digging, levelling, measuring and preparing timber. In terms of time, the building process probably covered a relatively short period of time, during which the construction was raised, the outer surfaces (walls and roof) were covered and the house was prepared for inhabitation. Part of the building process must have contained elements of teaching and learning, passing on knowledge, traditions and craftsmanship to the next generation of builders.

The architectural elements relevant to investigating the building phase at Strøby Toftegård are the supporting timber and the construction details on the long sides of the house, respectively. Both the timber and the side constructions can provide an insight into the character of the building materials used. The building materials are an essential source for ascertaining the quality and construction details of the original building. The materials and details that are chosen are decisive for the appearance and, not least, the lifespan of the longhouse.

Timber

In this part of the analysis, the dimensions of the timber posts in the roof-supporting structure will be analysed as a reflection of the robustness and quality of the rest of the

construction. Building timber has only been preserved *in situ* in very few contemporary settlements (e.g. Lundqvist 2000). In other cases, timber from buildings has been preserved in secondary contexts, such as bridges (Hansen & Nielsen 1979) and wells (Hvass 1992, 248). Where distinct impressions of the timber have been preserved in a posthole, this is a valuable source to defining the dimensions and sometimes also the shape of the post (e.g. Bican 2010, 151–2).

Unfortunately, no timber from the longhouses has been preserved at Strøby Toftegård, and post impressions are only found in a few cases. In this situation, the postholes themselves are therefore the best source for the character of the timber. The assumption is that the posthole that was dug for fixing the timber in the ground matches the post raised in it. The assumption is confirmed by the fact that variation in the diameter of the postholes within any given longhouse construction is limited. An analysis of the dimensions of the postholes therefore works as an indirect source to the outermost dimensions of the timber, even though this is not a fixed one-to-one relationship.

In the analysis, the average diameter and depth of the postholes holding the roof-supporting structures has been calculated for each house (Appendix A). In this calculation, source critical issues such as later disturbances and replacements of the post have been taken into account. Where plausible measurements of the diameter or depth of posthole could not be given, the posthole has been left out of the calculation. Furthermore, working with average measures will partly neutralise unrecognised disturbances of the data, for example, if the dimensions of a posthole has been distorted dimensions.

The diameter of the postholes varies, so the smallest diameter of a roof-supporting posthole is 10 cm (House 38) and the largest is 140 cm (House 5). The depth of the postholes also varies, with the smallest (preserved) depth measured at 1 cm (Houses 45 and K216) and the greatest at 78 cm (House 5). Whereas the diameter of the postholes within the same longhouse is more or less uniform, the difference in depth varies more within the same house, and fluctuations up to 40 cm have been observed (Houses 1, 2, 4 and 5). The variations can be caused by local preservation conditions and terrain, but in most cases, it must be a constructional choice, as there is a persuasive tendency that the deepest postholes are found in the middle of the house and the shallowest ones towards the gables. When the average diameter and depth are juxtaposed, there is a close relationship between the diameter and depth of the postholes (Fig. 3.16). Generally, the larger the diameter, the deeper the post has been fixed into the ground. This close relationship suggests that the dimensions of postholes mirror the quality of the construction of each house.

A logical assumption is that there is a relationship between the size of the house and the dimensions of the timber, so that the larger the house is, the more solid

timber is needed because the construction gets heavier. A juxtaposition of the (estimated) length of the houses with the diameter of the postholes maps and confirms this relationship (Fig. 3.17). In the middle of the diagram (marked with a tendency line), the average relationship between the dimensions and the length of houses is shown. The longhouses found near this line are the constructions that define the norm for building quality within the settlement of Strøby Toftegård. However, some houses are located significantly above the line, which can be interpreted as the quality of the building material has been ‘over-dimensioned’ (Houses 4, 5, 7, 18, 20, 28, 40, 46, K301 and K314) whereas those placed significantly below the line can be interpreted as

‘under-dimensioned’ (Houses 13, 51, 58, 59, 77, K216 and K401) compared to the norm. The thresholds between over, normal and under-dimensioned are not definite measurements. The distinctions are relative and should only be taken as a guideline hinting at the general quality of the buildings at Strøby Toftegård. When mapped onto the settlement plan (Fig. 3.18), there is a distinct spatial difference between the over-dimensioned houses, which are concentrated in the south-eastern part, while the under-dimensioned houses are closer to the outskirts of the excavated areas. Even though only some of the longhouses can be categorised, the building quality of the longhouses on the whole seems to mark a clear division within the settlement.

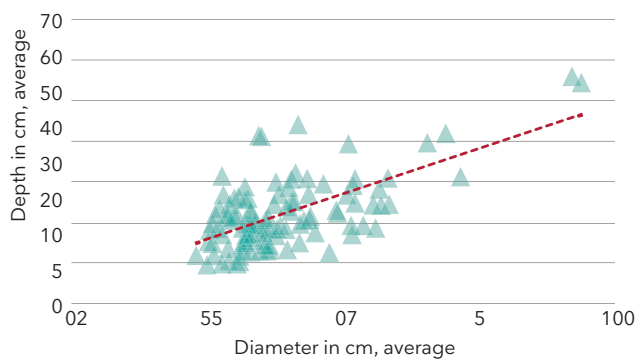


Fig. 3.16. Distribution of average measures of diameter and depth of the roof-supporting posts in the longhouses. The tendency line marks the ideal relationship between the two measurements. $N = 107$. Diagram: A. S. Beck

Construction details on the long sides of the house

The construction details along the sides of the house include all post and ditch features observed in those areas. The features originate from either wall constructions or buttresses on the outer side of the wall or from both. Due to the preservation conditions at Strøby Toftegård, it is not always possible to distinguish between wall posts and buttresses, as the postholes are often too shallow or no post impressions have been preserved to reveal the angle of the original post. Therefore, the two architectural elements will be discussed together in this part of the analysis.

Traces of constructions along the sides of the house have been preserved in 56 longhouses (Appendix A). In some cases, the archaeological traces reveal the full layout of the longhouse, whereas for others, the constructions

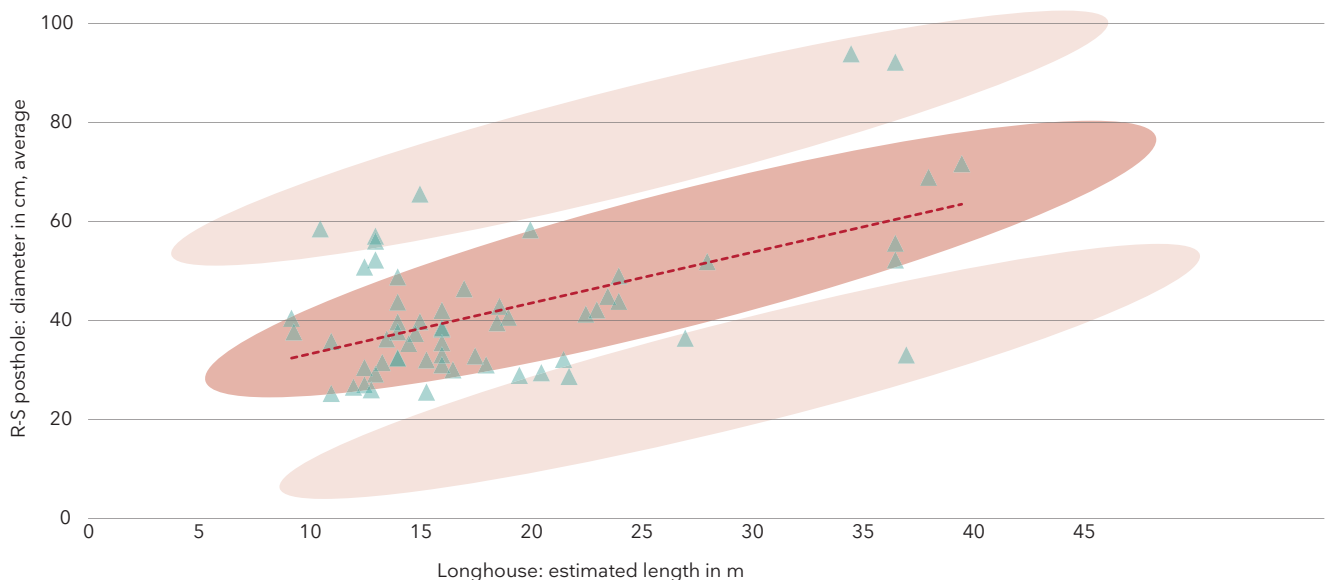


Fig. 3.17. Distribution of longhouses at Strøby Toftegård comparing the estimated length of a house with the average diameter of its roof-supporting posts. The tendency line marks the norm for building quality of the longhouses. Longhouses located far above the line have been interpreted as over-dimensioned, whereas longhouses located far below the line are interpreted as under-dimensioned in relation to the quality of the building materials. $N = 60$. Diagram: A. S. Beck.



Fig. 3.18. The distribution of the quality of the used building materials in the settlement of Strøby Toftegård. Houses where no evaluation can be made are marked in light blue. Illustration: A. S. Beck.

are only partly preserved. In the instances where the layout of the house can be identified, the majority (78%) of the longhouses had curved long sides (40 longhouses with curved long sides compared to 11 longhouses with straight long sides). The longhouses with straight long sides seem to be found mainly in the north-eastern part of the settlement, whereas longhouses with curved long sides are distributed evenly across the settlement (Fig. 3.19). The curved shape is often, but not always, mirrored in the roof-supporting structure (when it consists of more than two pairs of posts). Longhouses with curved long sides can also have a straight roof-supporting structure (e.g. Houses 6, 28 and 79) (Table 3.2). Longhouses with straight long sides have either a straight roof-supporting structure (e.g. Houses 53 and 59) or a curved one (e.g. Houses 11, 12 and 47). In that sense, there seems to be no direct correlation between the shape of the roof-supporting structure and that of the long sides.

The majority of the side constructions are present as postholes. Traditionally, wall constructions consisting of a row of postholes are interpreted as wattle-and-daub walls. This assumption is confirmed by the fact that many longhouses at Strøby Toftegård have remains of burnt clay in the backfill of the postholes, which could originate from the walls (57 out of 108 longhouses), and it must be assumed that the majority of the longhouses in the settlement probably had wattle-and-daub walls. However, two longhouses distinguish themselves by having traces of both wall posts and a wall ditch (Houses 4 and 90), showing that other construction forms were also used in the settlement. Due to limited investigations, details of the construction of House 90 are not known, but the wall construction of House 4 is well-documented. The wall ditch of House 4 was packed with water-rolled stones from the beach, a few flint and chalk blocks, but no burnt stones (Fig. 3.20A) (Woller 1998, 22–26). At the bottom of the ditch, traces of larger posts



Fig. 3.19. The distribution of longhouses with, respectively, curved and straight long sides in the settlement of Strøby Toftegård. Houses where the shape of the long sides cannot be determined are marked in light blue. Illustration: A. S. Beck.

were found that corresponded to the roof-supporting posts. In between the posts, smaller stakes were identified, placed with a regular spacing of *c.* 35 cm (Fig. 3.20B and C). The stakes were each 10 cm in diameter. The construction of the wall indicates that the stakes and posts could be holding a plank construction with the stones working as a drain for the plank wall to keep it from rotting (Tornbjerg 1997, 9). Similar constructions with stone-filled wall ditches (but not with water-rolled stones) and possible plank walls have been observed at other contemporary settlements, for example Lejre (Christensen 2015, 107–112), Værløse Vest (Staahl 1996) and Ågård (Kristensen 2015; Kildetoft Schultz 2017). Even though many attempts were made to locate similar traces linked to other longhouses at Strøby Toftegård, House 4 seems to be the only one with this kind of wall construction, which must have made it stand out from the rest of the settlement. Both Houses 4 and 90 are located within the south-eastern part of the settlement.

Some longhouses also had buttresses slanting towards the wall. The presence of buttresses can be verified where the slanting posts have left a clear and distinct mark in the profile of the postholes (Fig. 3.21) (see also Olsen 1968). In total, nine longhouses at Strøby Toftegård have convincing traces of buttresses (Houses 1, 2, 3, 4, 5, 28, 29, 45 and K303) (Appendix A). Originally, the number of longhouses with buttresses was probably higher, but because of the preservation and lack of post impressions, it is not possible to verify whether the postholes on the long sides held buttresses or wall posts. Among the longhouses at Strøby Toftegård, there are also examples where post impressions originate from upright-standing posts (Houses 7, 11, 12, 39 and 59) and which did not have buttresses. Longhouses with or without buttresses thus existed simultaneously in the settlement. Most of the longhouses with buttresses were found in the south-eastern part of the settlement (Fig. 3.22).

Table 3.2. The relationship between the shape of the roof-supporting structure and the long sides. In the table, 1 = straight and 2 = curved.

House	Long sides, curved or straight	R-S structure, curved or straight
11	1	2
12	1	2
23	1	1
39	1	2
47	1	2
59	1	1
1	2	2
2	2	2
3	2	2
4	2	2
5	2	2
6	2	1
13	2	2
24	2	2
28	2	1
29	2	2
50	2	2
67	2	2
79	2	1
83	2	1
401	2	2

The function of the buttresses has been heavily discussed, mainly as part of the roof-supporting structure (e.g. Schultz 1942; Lauring & Hoff-Møller 1952; Larsen 1957; Christensen 1973; Schmidt 1977; 1994; Waterbolk 1994; Komber & Draiby 1999). In the longhouses at Strøby Toftegård, the buttresses are placed with a regular spacing in a way that matches across the house and also matches the pairs of posts in the roof-supporting construction. Buttresses are only found at the long sides while none of the longhouses have buttresses in the gables, as was observed for longhouses at, for instance, Lejre (Christensen 2015, 107–113) and Trelleborg (Nørlund 1948, 69–82). When juxtaposing the presence of buttresses to the six principles for the three-aisled roof-supporting construction defined earlier (see Fig. 3.10), there seems to be a correlation. Houses with verified buttresses have roof-supporting structures based on principle 3, 5 or 6, whereas longhouses that certainly did not have buttresses show a roof-supporting structure of principle 2, 3 or 4. Against this background, it seems reasonable to see buttresses as integrated into the roof-supporting structure. Interestingly, though, buttresses do not belong to one particular roof-supporting principle but can be added to different kinds of constructions, which

thus seem to be found both with and without buttresses. In that sense, buttresses do not seem to be a vital element of the roof-supporting structure but an addition which, in style with the middle posts, could be added or left out.

The buttresses may also have served other functions than the purely constructive ones. In the context of this analysis, it is relevant to emphasise the role of the buttresses in the overall appearance of the longhouse. All buttresses identified were related to longhouses with curved long sides, whereas most of the longhouses without buttresses had straight long sides (four out of five). Given this, it seems that the use of buttresses could reflect a conscious choice of design rather than a necessary construction element. When present, the buttresses must have appeared as an integral part of the house wall, making the house look wider, larger and more ‘solidly fixed to the ground’. They have certainly given the longhouses a specific look very different from buildings without buttresses, making these houses stand out from the rest.

When building a longhouse, the aim was to materialise the planned longhouse and produce a durable and inhabitable construction. The building phase must have been filled with choices to be made during that process. The challenge of the building phase was to exploit the possibilities present in the building process in the best way in order to build a longhouse that fitted both the inhabitants and the use of the house and which still fitted within the general idea of the longhouse as such.

Even though the analysis of the planning phase showed that the longhouses were more or less all built according to the same tradition, some longhouses stood out from the rest due to the quality of their building materials and construction details. Some longhouses were built with over-dimensioned timber in comparison to their size, and some had different wall constructions or added buttresses. The choices in the use of building material and construction details must have been made during the planning or the building process and could only be made in the cases where the possibilities were present. Yet, the choice of building material and construction details seems to be a choice related to the appearance of the longhouse rather than a necessity for the construction.

Longhouses built from over and under-dimensioned building materials existed alongside one another in the settlement. The differences in the quality of timber were in that sense not a question of overexploitation of the local resources, but rather an expression of conscious choices made during the building process. The impression that there was a conscious choice behind the use of building materials is further confirmed by the fact that the same houses that were built with over-dimensioned timber were generally speaking also the longhouses which had construction details that made them stand out as ‘well-built’, such as a stone-filled wall trench and plank walls (house 4), buttresses

(houses 1–5 and 28–29) or middle posts (houses 3, 4, 9, 29 and 50). So, there seems to have been a specific wish to make some longhouses stand out from the rest, and the possibility of making this happen was likewise present.

Inhabiting the longhouse

The phase during which the longhouse was inhabited is defined here as the period when the house was in use, by people, animals or both. This period stretches from when the house was built until all activity in the house

ceased. In practice, the inhabitation phase overlaps with the maintenance phase since maintenance was part of the daily activities, and the analytical distinction is in that sense artificial. Furthermore, in a case like Strøby Toftegård, where the settlement covers more than three centuries, the inhabitation phase of one longhouse cannot be seen as completely isolated from the ongoing planning-building-inhabitation-maintenance-abandonment phases of the rest of the settlement.

The inhabitation was characterised by the activities and movements, singular events and routines, that make



Fig. 3.20. Photos from the excavation of the wall ditch of House 4. A) Part of the northern wall ditch packed with water-rolled stones. B) Section of the northern wall ditch where the relationship between the stone-filled wall ditch and the stakes from the wall construction can be observed. C) Section of the northern wall ditch. Traces of stakes were found with regular spacing at the bottom of the ditch. Photos: Museum Southeast Denmark.



Fig. 3.21. Photos from the excavation of House 2. Section through two postholes belonging to the outer buttresses. The impressions of the slanting posts can be clearly identified within the sections. Photos: Museum Southeast Denmark.

up the daily life, including cooking, sleeping, working, building, taking care of children, foraging and storing, feasting, meeting people and telling stories. Activities were diverse, even though only a small part of them have left their mark directly in the archaeological record. The inhabitation period matches the lifespan of the house, which in the case of Strøby Toftegård is estimated to be between 40 and 75 years.

As was argued above regarding the building material, it is not possible as such to reconstruct the activities in the longhouse either. Instead, with a basis in the current archaeological record, it is possible to analyse the physical structure of the longhouse in order to understand the spatial framework for the daily use defined by the house



Fig. 3.22. The distribution of longhouses with and without buttresses in the settlement of Strøby Toftegård. Houses where no archaeological features belonging to the long sides of the house are preserved, or the function of the posts found cannot be identified are marked in light blue. Illustration: A. S. Beck

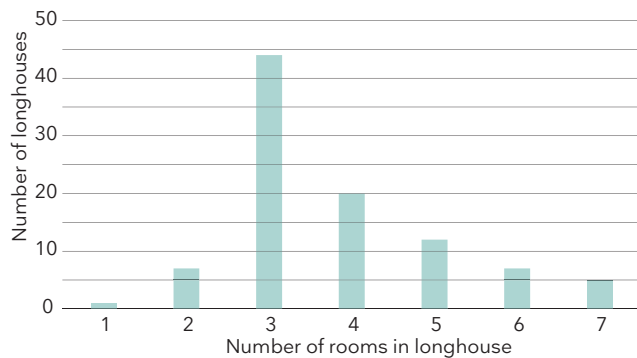


Fig. 3.23. Distribution of longhouses at Strøby Toftegård in relation to the number of rooms present in the longhouse. $N = 96$. Diagram: A. S. Beck.

(Bourdieu 1970; 1977; Pearson & Richards 1994; Carsten & Hugh-Jones 1995; Ingold 2000, 186; Olsen 2010, 8; Buchli 2013, 74; Bille & Sørensen 2016b, 11). In the following, the inhabitation phase will therefore be investigated by means of analysing the layout of the longhouse and its routes of access.

Layout of the longhouse

In this context, the analysis of the layout concerns the number and size of rooms within the house. The distribution and variation in the size of rooms in the longhouse can point towards some of the general principles for movement and use of the house. In relation to Strøby Toftegård, special attention will be paid to the presence of a 'hall room'; that is, one room that is significantly bigger than the other rooms.

The layout of the longhouse is closely connected to the principles of the roof-supporting structure defined previously (see Fig. 3.10). The pairs of roof-supporting posts placed along the full length of the house created a natural segregation into sections cutting across the house. Using this as a basic premise for the layout of the longhouses, the longhouses at Strøby Toftegård have between one and seven sections (Appendix A). Most common are longhouses with three sections (44 longhouses in all) (Fig. 3.23). Traces of partition walls show that the sections of a longhouses, at least in some cases, represented actual rooms within the longhouse. Partition walls have been preserved in nine houses (Houses 1, 2, 23, 29, 50, 52, 65, 76 and K410) (Fig. 3.24). The use of partition walls can help control the access to certain rooms into which perhaps not everyone was allowed (Beck 2014b). The partition walls are often located close to an entrance of the house and also in relation to gable-end rooms where they moreover served the practical purpose of decreasing draught into the longhouse.

The size of the sections within the longhouses varies considerably. The smallest section observed is just over 2 m long (Houses 58 and K311), while the largest section is 12.9 m long (House 2). In some longhouses, the

roof-supporting structure creates a 'hall room' (Fig. 3.25). At Strøby Toftegård, hall rooms are found in 28 longhouses in total (Appendix A). The size of the hall room varies from a little less than 5 m (House 58) to almost 13 m (House 2) in length. In percentages, the relation between the length of the hall room and the estimated length of the house varies between 22% and 77% (Table 3.3), but on average the hall room takes up 42% of the length of the house. Hall rooms are only found in longhouses with roof-supporting principles 5 and 6 (see Fig. 3.10). In some houses, one or two middle posts have been placed in the hall room, but there seems to be no connection between the length of the hall room and the use of middle posts. Interestingly, the hall rooms in the longhouses at Strøby Toftegård are found distributed across most of the settlement and not concentrated in one place, *e.g.* Farm 1 (Fig. 3.26). From this, it can be concluded that the hall room as a physical phenomenon and the function it may have served is not only associated with the largest or the most well-built longhouses but is found also in the less well-built and smaller longhouses of the settlement.

Routes of access

The location of the entrances defines the organisation of access and the routes of movements into the house. The entrances show in the excavations as either a significant gap in the row of wall posts or as posts that are withdrawn from the wall or the buttresses. Due to the preservation conditions, entrances cannot be identified in all longhouses, and in several of those where entrances have been identified, it is not certain that the total number of entrances has been discovered. The following analysis is based only on the identified entrances.

Entrances are located in 45 longhouses at Strøby Toftegård (Appendix A). The majority of the longhouses only have one identified entrance, but there are longhouses with up to four entrances (Houses 1 and 2). The entrances are usually located on the long side of the house. There are three examples of entrances identified in the gables (Houses 40, 46 and K302), but there are also some longhouses with an open gable. An open gable is defined as one marked corner post on either side of the gable and an absence of posts in between. Open gables are found in eight longhouses (Houses 1, 2, 3, 5, 40, 52, 59 and 88).

Three general principles could be ascertained for the location of entrances: they may be located at the ends of the house, centrally in the wall of the house or in a combination of these two (Fig. 3.27). The same three principles likewise feature in other contemporary settlements (Beck 2014b, 134; Eriksen 2015, 119–128). In 20 cases, longhouses have entrances centrally in the wall of the house, 17 houses have them near the gables and eight longhouses have a combination. The three principles seem to be distributed equally across the settlement (Fig. 3.28).

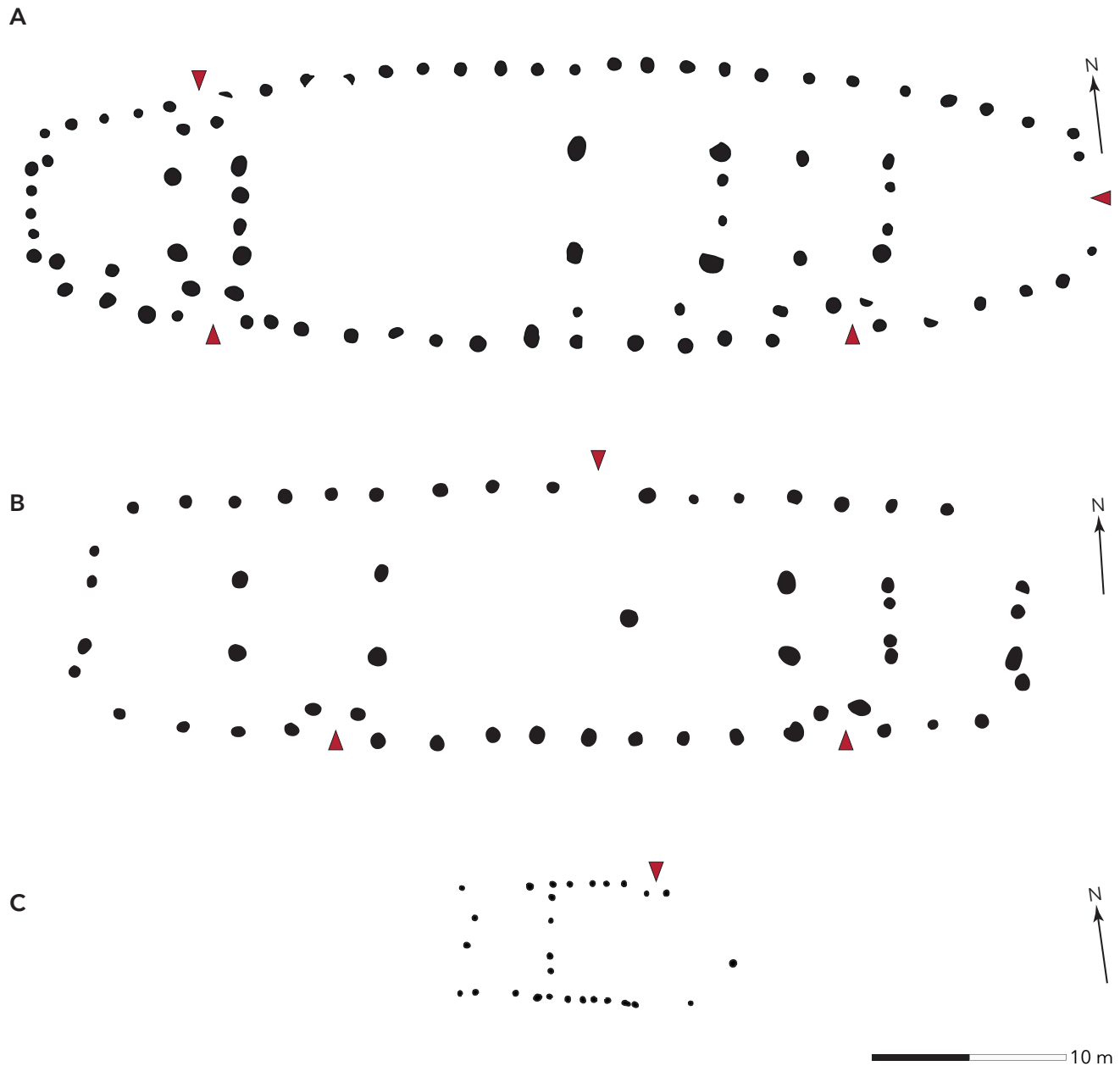


Fig. 3.24. Three examples of longhouses with partition walls: A) House 1, B) House 29, and C) House 65. All houses have been reproduced to the same scale and aligned to the same orientation. Entrances are marked with triangles. Illustration: Museum Southeast Denmark.

During the inhabitation phase, people were living in, with and around the longhouse. The engagement with the house was practical, social, as well as emotional through the activities taking place in the house. The experiences and events in the house generated memories and stories (Jones 2007, 48). Life in the longhouse was in that way not only a functional relationship but also the location for a learning process, where growing up in the house meant learning how to behave according to the norms of the Late Iron Age (Bourdieu 1970; 1977; Carsten & Hugh-Jones

1995; Ingold 2000). In this learning process, the longhouse served not just as a passive background but actively created the space for ways in which people could meet, act and be in the house by guiding movements, gestures and actions. The challenge was to create an architecture that reflected and supported social norms.

The analysis shows that a distinct variation in the layout of the longhouses can be identified based on the number of sections and the presence or absence of a hall room, yet at the same time, there is a close connection between the layout

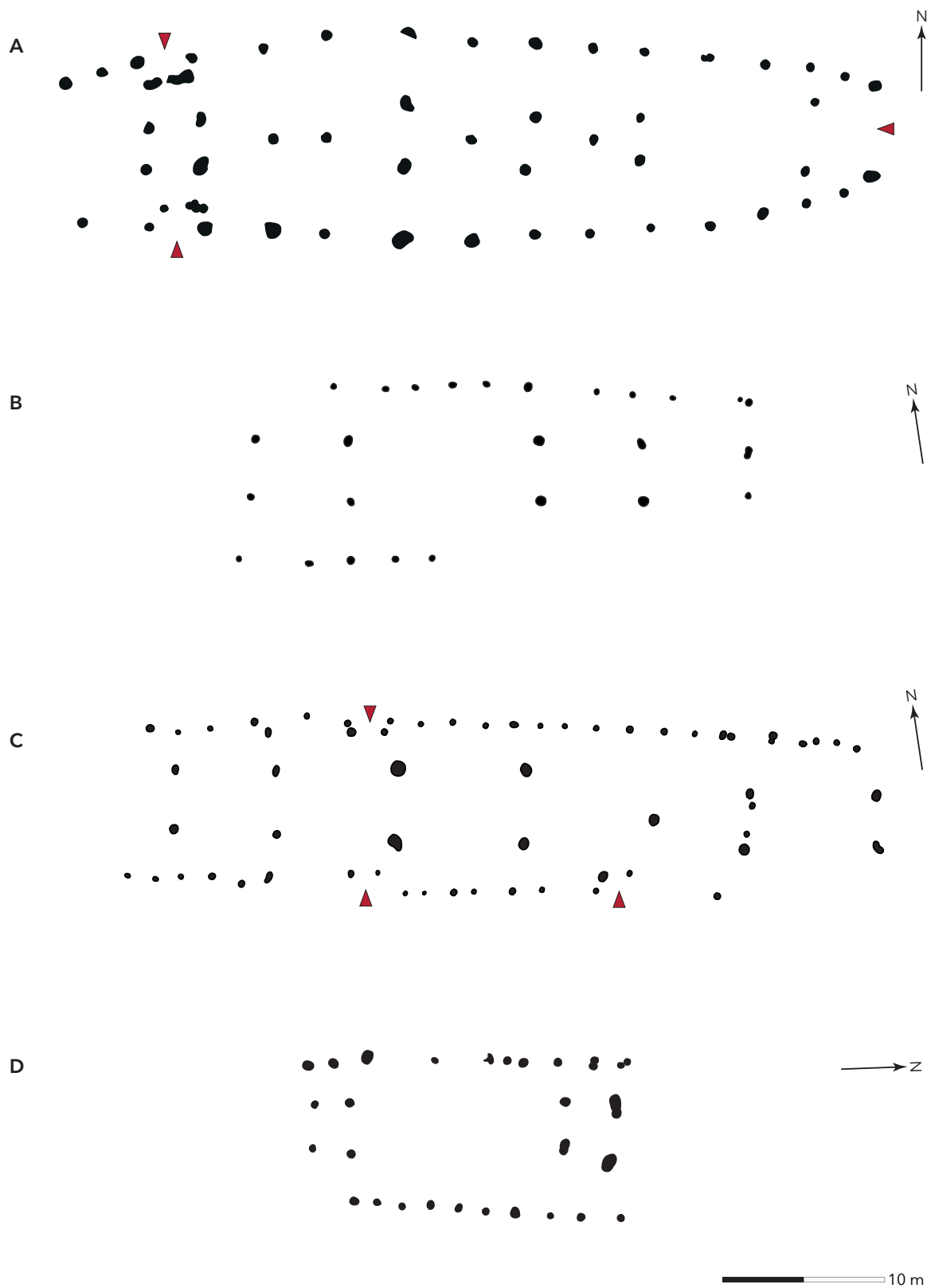


Fig. 3.25. Four examples of longhouses with a hall room: A) House 3, B) House 24, C) House 50, and D) House K305. All houses have been reproduced to the same scale and aligned to the same orientation. Entrances are marked with triangles. Illustration: Museum Southeast Denmark.

Table 3.3. Overview of longhouses with hall rooms, the estimated length of the longhouse, the measured length of the hall room and the percentage of the full length taken up by the hall room.

<i>House</i>	<i>Estimated length</i>	<i>Length of hall room</i>	<i>% of full length</i>
1	38	11.9	31
2	39.5	12.9	33
3	36.5	9.1	25
4	36.5	9	25
5	34.5	8.1	23
13	27	11.7	43
18	12.5	6.8	54
19	16	6.1	38
24	24	8.6	36
27	16	6.4	40
29	28	12.4	44
45	16	6.5	41
50	36.5	9.9	27
51	37	10.2	28
58	21.75	4.8	22
65	18	9.4	52
69	17.5	10.8	62
76	15.3	6.9	45
77	20.5	7.5	37
90	9.3	7.2	77
303	14	8.7	62
305	14.5	8.8	61
314	13	6.8	52
319	15	6.3	42
Average			42%

and the number and locations of the entrances to the longhouse. When the entrance principles are juxtaposed to the presence or absence of a hall room, longhouses with a hall room more often have entrances located towards the gables, whereas longhouses with no hall room more often have the entrances located in the middle of the walls (Fig. 3.29). In addition, there is a correlation in that the longhouses with hall rooms are the same as those where traces of partition walls have been preserved (Houses 1, 2, 29, 50, 65 and 76). Therefore, it can be argued that, in longhouses with a hall room, there is a higher degree of control of the access routes than in houses without a hall room.

However, there are differences in the degree of control in the houses that have hall rooms. In some longhouses, no outer entrances lead into the hall room but instead to an ‘anteroom’ just before the hall room (Houses 1–5, 45, 51, 76 and 90), whereas in other longhouses, an entrance leads

directly into the hall room without any anteroom (Houses 13, 18, 29, 41, 50, 65 and K303). In the latter cases, however, the entrance is always withdrawn from the wall or buttresses in some way, so that the entrance creates its own physical space between the outside and inside, thus working as its own kind of anteroom (Beck 2014b, 132). It can be argued that there is still no direct access to the hall room in these cases, but the degree of control is lesser than in the longhouses where the entrances lead into an actual anteroom before allowing access to the hall room.

The layout of the longhouse was an active component in the process of learning how to act in life, for example through the guidance and control of access routes. The layout of the longhouse, both in terms of number of sections and rooms, special kinds of rooms and location of entrances, could reflect and support ideals of how to behave in the context of the longhouse, whether in relation to the activities taking place in the longhouse, to who was allowed where or to the social context dictated by the longhouse. The variation observed in layout and access routes could in this way mirror differences in how to behave inside the different longhouses.

Maintaining the longhouse

The maintenance phase is defined as the period during which the longhouse needs regular maintenance and repairs. In principle, the maintenance phase starts as soon as the house has been built because the decay of the longhouse begins at that same moment. Some amount of time passes, though, before actual maintenance and repairs are necessary. The maintenance phase ends when the decay of the longhouse is so advanced that repairs are no longer feasible. In that way, the maintenance phase to a large degree overlaps with the inhabitation of the house since the use of the house in itself causes wear and tear that needs to be taken care of.

The maintenance phase is characterised by both activities related to daily, seasonal and routine maintenance of the house, such as cleaning the house, replastering the walls and doing minor repairs, and by larger repairs that become necessary after a number of years, such as replacing rotten posts, rebuilding the walls or putting up a new roof. All activities serve to prolong the lifespan of the house and to keep it in good condition. In terms of time, the maintaining of the longhouse stretches over most of the lifespan of the house.

Only the maintenance activities and repairs that involve digging into the ground have left any identifiable marks in the archaeological record. The repairing phase will therefore be analysed by examining the replacement of posts. Repairs of the longhouse is an indirect source to how much was done to prolong the life of the house, which elements were most vulnerable or were repaired most frequently, and to the strategies employed to stop or minimize decay.



Fig. 3.26. The distribution of longhouses in the settlement of Strøby Toftegård with a hall room. Houses where no hall room has been identified are marked in light blue. Illustration: A. S. Beck.

Replaced posts

For the analysis, all replacements of posts have been identified and counted. Replaced posts were identified in the excavation plan and the section drawings of the postholes. All replacements count as equal units in the analysis, regardless of whether it concerns a wall post or a roof-supporting post.

Replaced posts were observed in a little more than half of the longhouses (61 longhouses) (Appendix A). Among the longhouses with replacements, the majority feature one or two replaced posts (30 longhouses) (Fig. 3.30). House 67 has the largest number (17 replaced posts) due to a rebuilding of the eastern long side of the house (Fig. 3.31).

The posts where replacement has been identified are most often roof-supporting posts and middle posts, as was observed in 42 cases (Table 3.4). The replacement of one or two roof-supporting posts is most common, and the number of replaced roof-supporting posts and middle posts rarely

exceeds four. In 26 cases, posts along the sides of a house have been replaced. The number of posts replaced in the walls often exceeds one per longhouse, and in three cases it exceeds ten replaced posts in the same longhouse. The replacement of posts in the gables is only observed in 14 cases, and rarely with more than one post being replaced. The number of observed replacements of each architectural element should be seen in relation to 1) the number of posts in the original construction element and 2) the preservation conditions. The concrete number of replaced posts can therefore only work as a guideline to which elements were repaired most often and to what extent, not as any exact number. The longhouses with replaced posts are distributed across most of the settlement (Fig. 3.32), and no spatial groupings can be identified.

In the maintenance phase, the inhabitants engaged actively with the concrete longhouse by taking care of it with the aim of keeping the house at a certain standard and



Fig. 3.27. Examples of the three principles for the location of entrances: A) House 5 (entrances at the gables), B) House 46 (entrances at the gables), C) House 7 (centrally located entrances), and D) House 31 (entrances both at the gables and centrally located). All houses have been reproduced to the same scale and aligned to the same orientation. Entrances are marked with triangles. Illustration: Museum Southeast Denmark.



Fig. 3.28. The distribution of longhouses with entrances at the gables, entrances centrally located and longhouses with entrances both at the gables and centrally located in the settlement of Strøby Toftegård. Houses where no entrances have been identified are marked in light blue. Illustration: A. S. Beck.

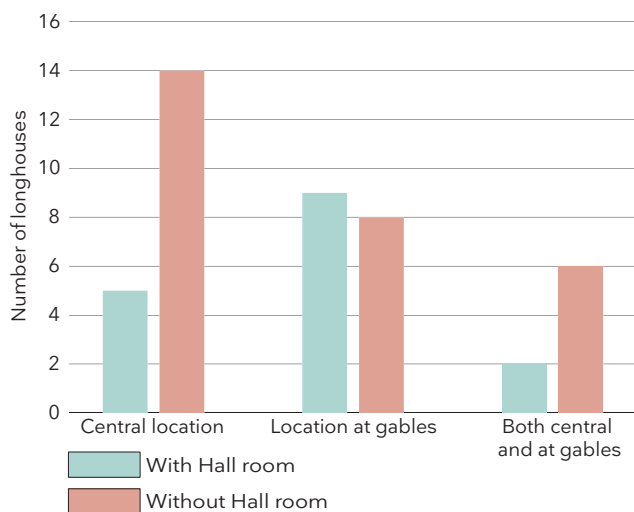


Fig. 3.29. Distribution of the principle of location of the entrances compared to the presence or absence of a hall room in the longhouse (in percentages). $N = 44$. Diagram: A. S. Beck.

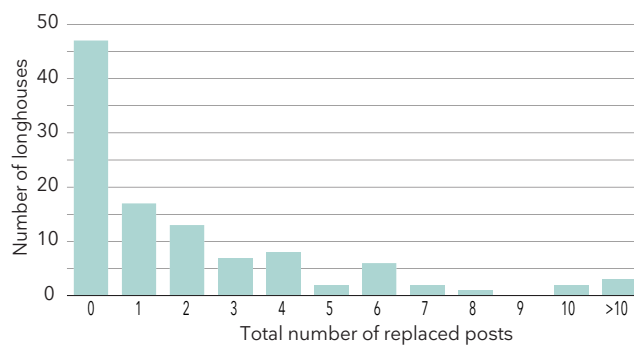


Fig. 3.30. Distribution of longhouses at Strøby Toftegård in relation to the number of replaced posts identified in the longhouse construction. $N = 108$. Diagram: A. S. Beck.

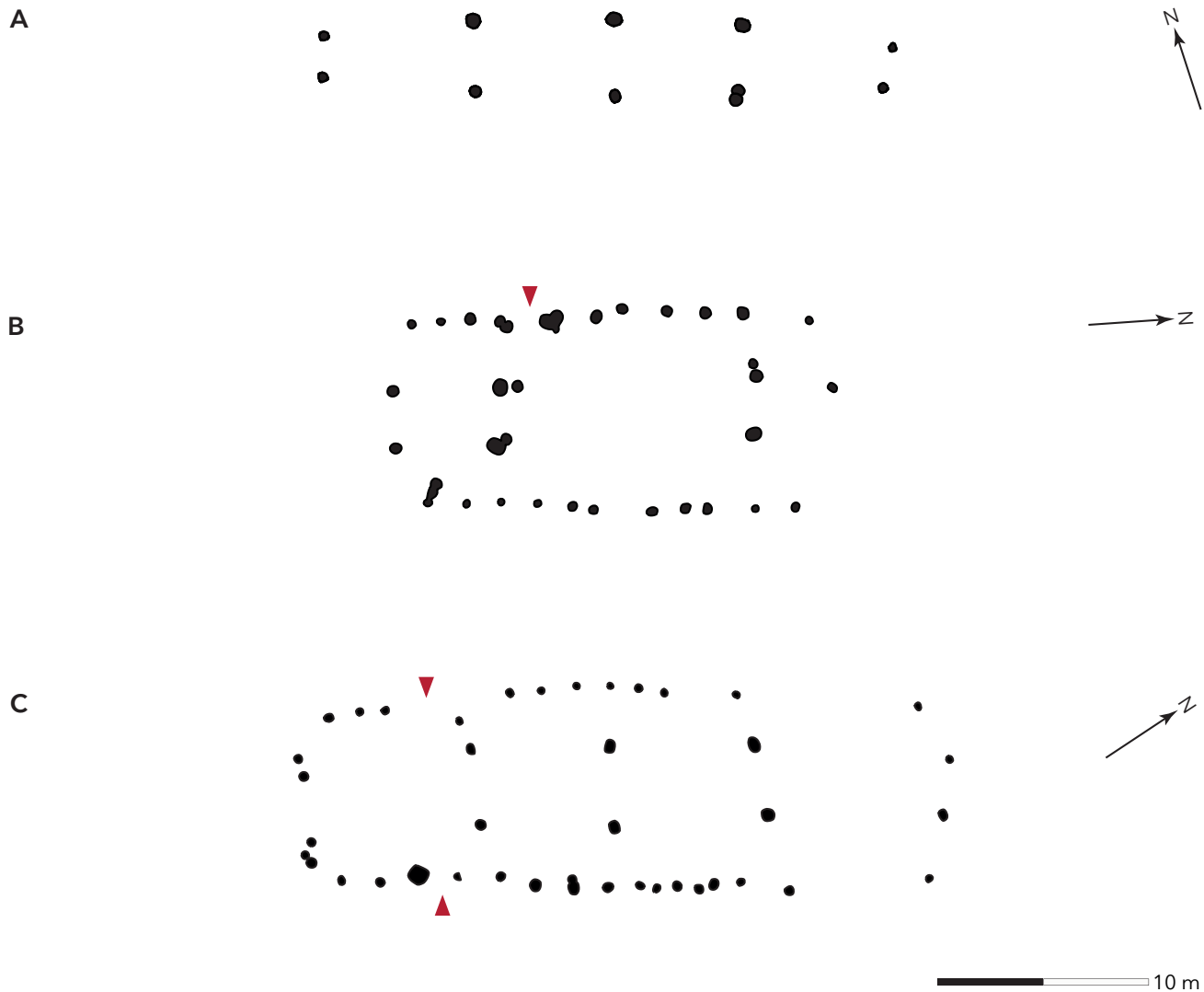


Fig. 3.31. Three examples of longhouses with replaced posts: A) House 10 with one replaced roof-supporting post, in the middle, B) House K303 with three replaced roof-supporting posts and at least one replaced post along the side, and C) House 67 with one replaced post in the gable and most of the long side having been replaced as well. All houses have been reproduced to the same scale and aligned to the same orientation. Entrances are marked with triangles. Illustration: Museum Southeast Denmark.

prolonging its lifetime. The challenge was to find a balance between investing in the existing house and building a new one. How much a longhouse was repaired may be connected to the quality of the building materials (the poorer quality, the more repairs were needed), the lifespan of the house (the longer the house was standing, the more repairs were needed) or to the social quality of the building to the house (the more social and emotional connections to the house, the more intense the wish to prolong its life).

The replacement of posts and rebuilding of elements of a house was one way to prolong its lifespan. If the number of replaced posts is taken as an indicator of the general maintenance of the house, it shows that not all houses were looked after to the same degree.

When the number of replaced posts is juxtaposed with the quality of the timber (over or under-dimensioned, see 'Building the longhouse'), it is interesting to see that over-dimensioned longhouses on a general level seem to have more replaced posts than under-dimensioned ones (Table 3.5). In principle, the contrary could be expected due to the poorer quality of the building materials, but houses built of good quality timber probably had a longer lifespan. They may thus have needed more replacements than buildings of poorer quality material, simply because they stood for longer periods of time. The juxtaposition also confirms that the investment in these houses was greater than in other houses, not just when they were being built but also during their lifetime. When juxtaposing the



Fig. 3.32. The distribution of different degrees of maintenance of the longhouses according to the total number of replaced posts in the settlement of Strøby Toftegård. Houses where no replaced posts have been identified are marked in light blue. Illustration: A. S. Beck.

number of replaced posts with the construction principles of the roof-supporting structure, it emerges that houses with construction principle 5 and 6 are more often repaired than houses with construction principles 1 to 4. Of the longhouses with construction principles 5 and 6, 83% and 77%, respectively, had had posts replaced, whereas between 44% and 60% of the longhouses with construction principle 1 to 4 featured replaced posts (Table 3.6). This juxtaposition indicates that not only the quality of the building materials but also the use of the building could influence the degree of maintenance. The level of maintenance can in this way be an indirect reflection of differences in the role that the building played for its inhabitants and within the settlement in general.

Abandoning the longhouse

The abandonment of the longhouse is defined as the phase in which the longhouse ceases to be in use and the building

is given up. The abandonment phase begins when the maintenance of the building stops and the inhabitants (people and animals) and activities move out of the building. The phase ends when the house no longer exists as a standing structure, whether it is demolished deliberately or falls apart by itself. The abandonment phase is the last phase in the biography of the (physical) longhouse and does not as such overlap with any of the other phases. When abandonment leads to the movement from an old to a new longhouse, the abandonment phase of one longhouse can overlap with the building and inhabitation phases of the new one. The knowledge and memory of the longhouse could, however, live on beyond its physical existence (Jones 2007; Beck, Chapter 17).

The abandonment phase is characterised by the removal of inventory and inhabitants from the longhouse, as well as the slow or quick demolition of the longhouse. The longhouse could be left to fall apart by natural decay or be deliberately demolished. In many cases, the building

Table 3.4. Overview of the number of longhouses with replaced roof-supporting posts, longhouses with replaced posts along the sides and longhouses with replaced posts in the gables distributed according to the numbers of replaced posts. The total number of cases of the respective types of replaced posts are summed up at the bottom.

No. replaced posts	Cases of replaced roof-supporting posts	Cases of replaced wall posts/butresses	Cases of replaced gable posts
0	66	82	93
1	18	8	12
2	18	5	2
3	2	4	0
4	3	1	1
5	0	3	0
6	1	0	1
7	0	1	0
8	0	0	0
9	0	1	0
10	0	1	0
>10	0	3	0
Total	42	26	15

Table 3.5. Overview of the quality of the timber (1 = over-dimensioned; 3 = under-dimensioned) compared to the total number of replaced posts in the longhouse construction.

House	Dimensioned	Replaced posts, all
13	1	15
51	1	0
58	1	0
59	1	0
77	1	1
216	1	0
401	1	7
4	3	5
5	3	1
7	3	0
18	3	6
20	3	4
28	3	6
40	3	1
46	3	6
301	3	2
314	3	4

Table 3.6. Overview of the total number of replaced posts in the longhouse construction compared to the principle of the roof-supporting structure (in percentage).

%	0	1–2	3–4	5–6	7–8	9–10	>10	Total %
Roof-supporting 1	56	22	22	0	0	0	0	100
Roof-supporting 2	48	37	7	4	4	0	0	100
Roof-supporting 3	56	22	11	6	0	0	6	100
Roof-supporting 4	40	20	0	20	7	7	7	100
Roof-supporting 5	17	33	17	17	8	0	8	100
Roof-supporting 6	23	15	46	8	0	8	0	100

timber was probably reused in new longhouses or other constructions. The abandonment phase could be short or long depending on how the house was given up, and this phase was not always deliberate or planned. It could also be accidental if, for instance, a house burnt down or if all members of the household died of illness. Then the abandonment would typically be quick and unplanned (Cameron & Tomka 1999).

In the context of this analysis, the abandonment of the longhouse will be investigated by examining the traces of deliberate demolition of the longhouse. The settlement at Strøby Toftegård has a total lifespan of around 350 years and, during that period, it was necessary for the inhabitants to handle houses that were no longer functional. The demolition of houses shows how people at the time engaged with longhouses when they went out of use.

The demolition of the longhouse

The demolition of the longhouse is deduced from the stratigraphy of the postholes, with layers and cuts interpreted as traces of events linked to the longhouse. In principle, the demolition of a longhouse was the last (deliberate) action to leave an impact in the stratigraphy of the posthole, sometimes even erasing traces of earlier actions. The identification of traces of demolition of a house is, in this case, based on traces of secondary cuts that show as irregularities within the section, as ‘messy’ stratigraphy within the posthole or as irregular post impressions, all of which are interpreted as traces left by digging or pulling up the posts when the house was demolished (Fig. 3.33). The lack of post impressions is also generally taken as a sign of later disturbances of the stratigraphy, but is, in the present context, only counted as a trace of demolition if combined with secondary cuts. Furthermore,

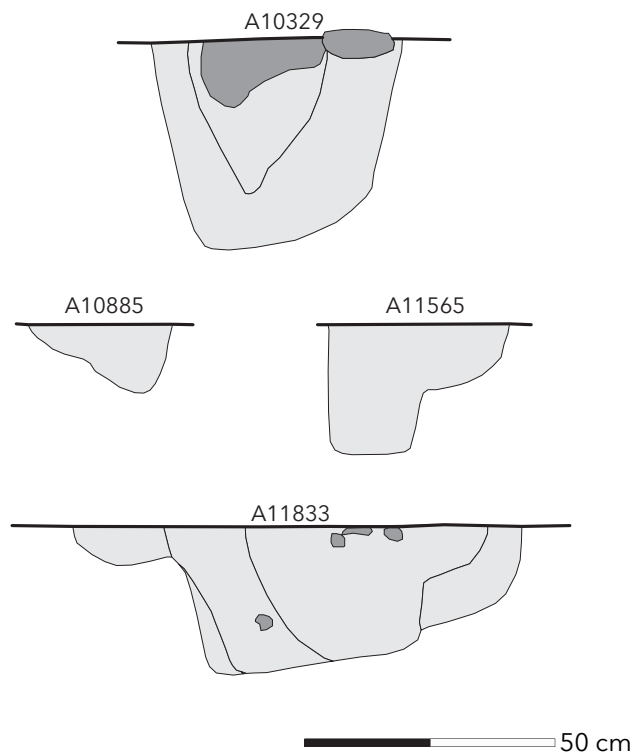


Fig. 3.33. A selection of posthole sections exemplifying stratigraphical traces interpreted as traces of the demolition of the house. From top to bottom: A10329 from House 6, example of an irregular post impression towards the top of the feature interpreted as a post that has been pulled up; A10885 from House 10 and A11565 from House 31, examples of postholes with secondary cuts interpreted as cuts that have been made to remove the post; A 12862 from House 57, example of a posthole with a messy stratigraphy. Drawing: Museum Southeast Denmark.

the content of the last stratigraphical layer belonging to the house may contain information about the last actions within the house, for example if the house burnt down.

As traces of the demolition are delicate, special attention needs to be paid during the excavation and the recording of the archaeological features linked to this phase in order to identify and document them. It is essential that any traces of the demolition are identified and described during the excavation in the section drawing and that the content of the backfill of the posthole is thoroughly investigated; a process which, if optimal, should be done on the basis of a soil sample from the particular layer. In the case of Strøby Toftegård, the recording of the archaeological features did not devote attention specifically to this phase of the houses, and generally very few soil samples were collected and investigated. The archaeological record is therefore not ideal, but some elements can still be deduced from the existing records.

Traces of demolition, in terms of pulling down or digging up remaining posts, has been identified in 58 longhouses in total (Appendix A). For the remaining 50 houses, no clear signs of demolition could be found, even though some of them did not have post impressions preserved, which could be taken as a sign of demolition. The original number of longhouses being demolished deliberately at Strøby Toftegård may therefore have been higher.

In the case of House 4, the archaeological record not only revealed traces of demolition but also of the active backfilling of postholes after the posts had been removed. When House 4 was excavated, a large quantity of stones was found packed into the archaeological features. The stones were mainly water-rolled stones from the beach, but also burnt stones and occasional larger stones from the field, blocks of chalk and flint nodules had been placed in the postholes. Most of these stones were found packed in the upper levels of the archaeological features (Fig. 3.34).



Fig. 3.34. Photos from the excavation of House 4. A) Section through one of the roof-supporting posts, and B) one of the buttresses. The postholes have been filled with stones, mainly water-rolled ones – and in the case of the buttress also a large field stone – after the demolition of the house. Photos: Museum Southeast Denmark.

Even though some stones may have been placed there when the house was built, *e.g.* in the wall ditch, the bulk of them rather seems to have been added at the time when the house was demolished (Woller 1998, 23). Furthermore, the fact that these holes contained mainly water-rolled stones, which had to be collected from the beach and transported at least 2 km inland, shows that an extraordinary effort was invested in the process. The backfilling of the archaeological features with stones must thus have been a deliberate action.

When the landowner saw the large number of stones during the excavation of House 4, he explained that he, his father and his grandfather, who had owned the land before him, had over the years removed loads of stones from the area (T. Agertved, pers. comm.). This story, even though the amount of stones cannot be confirmed archaeologically, indicates that the area was previously home to many more stones than the ones found in the archaeological features, suggesting that the whole house might have been covered

by stones after its demolition. Further supporting this interpretation is the fact that this specific house site was not, unlike many others, reused for building a new longhouse. If the interpretation is correct, the stones will have made the ruin of House 4 stand out from the rest of the settlement, giving the house a presence that reached beyond its actual lifespan. The meaning of giving the house an afterlife will be further discussed by Beck in Chapter 17. In the following, the discussion will focus more directly on the connection between stones and the demolition of the house.

No other longhouses at Strøby Toftegård had the same kind of stone packing with water-rolled stones as House 4. Nonetheless, fragments or larger quantities of burnt stones were found in the postholes of 85 longhouses in the settlement in total (Appendix A). This is a large proportion of the settlement longhouses, and they were evenly spread across the settlement (Fig. 3.35). The burnt stones were found in all layers of the postholes, but often towards the top of the



Fig. 3.35. The distribution of longhouses with burnt stones in the backfill of the postholes at the settlement of Strøby Toftegård. Houses where no burnt stones were found in the backfill are marked in light blue. Illustration: A. S. Beck.



Fig. 3.36. Plan of House 5. Finds of burnt clay have been marked, both in postholes belonging to the house construction and in postholes from the possible artificial plateau on which House 5 was built (see Beck & Kildetoft Schultz, Chapter 2, for further discussion) and the culture layer A10116 just north of House 5. Illustration: Museum Southeast Denmark.

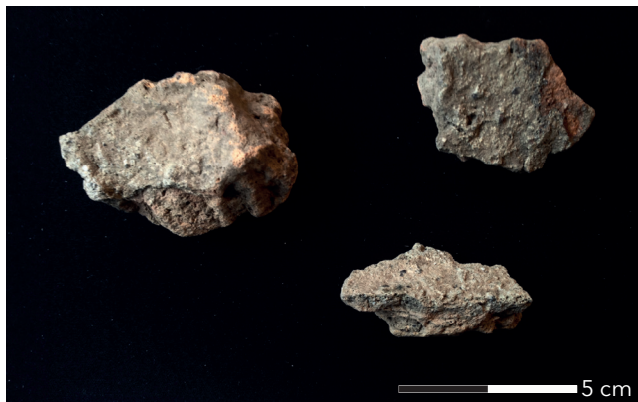


Fig. 3.37. Pieces of burnt and sintered clay from postholes (A10259 and A 10291) in House 5. Photo: A. S. Beck.

features. Even though burnt stones were generally present in the soil and cultural layer covering the settlement and thus could potentially have ended up in postholes by accident, the amount of burnt stones in many of the postholes suggest that they were deliberately placed when backfilling postholes. A similar case has been observed at the recently excavated Ågård near Bjæverskov, where the archaeological features of a longhouse, K15, seem to have been packed with large amounts of burnt stones after the demolition of the house (Kildetoft Schultz 2017). The question is whether a more

general link between the use of (burnt) stones in the backfill of the archaeological features and the demolition of a house should be sought in future investigations?

A different perspective on the demolition of longhouses comes from the longhouses that burnt down. Three longhouses at Strøby Toftegård have clear indications of having burnt down (Houses 5, K314 and K319). In House 5, large amounts of burnt clay from the wattle-and-daub walls have been found in the archaeological features (Fig. 3.36). A cultural layer just north of House 5 (A10116) had a remarkably high concentration of charcoal, which also indicates the presence of a fire in the area. Some of the pieces of wattle-and-daub are sintered on one side because they have been burnt at very high temperatures (P. S. Henriksen, pers. comm.) (Fig. 3.37). Since these severely burnt pieces of wattle-and-daub are found across most of the house, this appears to indicate that they do not stem from any specific structure, such as an oven, but from the actual house construction. Sintering is a process that only happens when clay is burnt at more than 1000°C. Experimental work shows that a house fire is unlikely to reach such extreme temperatures unless the fire is tended and fuelled carefully, which may indicate that the fire was deliberate (Tringham 1994, 178). In Houses K314 and K319, charcoal, burnt clay and white clay slag in the backfill of the roof-supporting posts is interpreted as both houses having been burnt down (Henriksen & Mortensen, Chapter 5).



Fig. 3.38. Longhouses that burnt down and longhouses that may have burnt down in the settlement of Strøby Toftegård. Houses where no traces of fire in the archaeological features could be identified are marked in light blue. Illustration: A. S. Beck.

The question is whether these three houses are the only ones that burnt down or whether it is a more widely spread phenomenon within the settlement. As consistent soil samples were not part of the excavation strategies at Strøby Toftegård, no detailed investigations of the content of the posthole fill have been made. However, from the layer descriptions and finds list in the excavation reports, it is evident that burnt clay, which is relatively easy to identify in the excavation, has been registered in the postholes of 57 longhouses (Appendix A). Yet, none of these pieces of clay have the same sintering as the clay pieces from House 5, but burnt clay can in itself still be an indicator of a house fire. In Houses 12, 13, 16, 24, 29, 32, 37, 38, 45, 50, 54, 56, 60, 64, 65, 66, 67 and 76, burnt clay was found in such an amount and with a general distribution within the houses as to provide a valid argument for possible house fires. This means that at least 18 out of 109 longhouses burnt down. It must be assumed that accidental fires were generally the

exception in contemporary settlements. Even though, the number of house fires must be distributed over 350 years, the share of burnt-down houses seems as a relatively high number (17%). The burnt-down houses are furthermore spread all across the settlement and in among contemporary houses that yielded no traces of fire (Fig. 3.38). The burnt houses therefore cannot be indicative of a fire burning down the whole settlement, but it may suggest that controlled fires were used deliberately as a way of demolishing longhouses and clear the house sites. Targeted future investigations by means of soil samples could possibly bring new knowledge on the use of fire in the demolition of longhouses.

In the abandonment phase, the aim was to physically move out of the longhouse but also potentially move out of a place to which stories, memories and emotions were connected. The abandonment of the house was in that sense not only a practical activity but also an emotional closure, and it could thus be associated with rules and traditions of how to

abandon a house in the proper way that may have included rituals and ceremonies (Tringham 1995, 87–94; Gerritsen 2003, 95–102; Webley 2008, 73–4; Eriksen 2016). Part of a proper abandonment could be to erase the longhouse either by demolishing it or by burning it down.

The analysis shows that there were differences in how houses were demolished. Some longhouses were deliberately taken down, and probably very few longhouses were actually left to fall apart by themselves. A deliberate demolition of the longhouse was necessary if the house site was needed for a new building or if the building materials were needed in new constructions.

Some demolitions were rather spectacular and involved burning the house down to the ground or deliberately burying the house with stones. There is no direct correlation between the longhouses that were spectacularly demolished and the quality of their timber or the principle of their roof-supporting structures. Still, these extraordinary practices could be an expression of the extra effort invested in some cases in order to clean the area in both a practical and a ritual sense before building a new house. The practice suggests that some houses were more heavily loaded with meaning to the contemporary society than others. Burying the longhouse under stones or burning it down shows similarities to contemporary burial rituals where the body was cremated and/or buried, often with the inclusion of stones in the burial monument or the burial itself (Ulriksen 2011; Eriksen 2016). Perhaps the house was perceived as dead once it was abandoned and demolished and the appropriate way to handle the dead house was by giving it a proper burial?

Living in, with and around the longhouses at Strøby Toftegård

The aim of the analysis has been to investigate patterns of similarities and differences in specific architectural elements relevant to the general biography of the longhouses at Strøby Toftegård. In the following, the separate patterns will be brought together in a broader interpretation of the character of the Late Iron Age and Viking Age settlement complex at Strøby Toftegård.

The analysis was structured according to five phases in the overall house biography, these being the planning, building, inhabiting, maintaining and abandoning of the longhouse. For each phase, elements of the physical house as well as traces of how people engaged with the house during that particular phase were presented and interpreted. In this process, both similarities and differences were identified in the assemblage making up the longhouse. Similarities appeared for instance in the dominance of the architectural tradition of the three-aisled construction and in the uniform use of building materials, with only a few houses standing out. Differences showed for instance in the size and

layout of the longhouses and in the degree of maintenance. Furthermore, spatial patterns of the architectural elements were investigated across the settlement, revealing that some elements occurred all over the settlement, whereas others were concentrated in certain areas. The general impression therefore is that the biographical analysis of the longhouses reflects real differences between them and can be used as a basis of a broader interpretation of the settlement.

The main conclusion of the analysis is that patterns of similarities and differences among the longhouses – or more correctly in the archaeological records of the longhouses – were created by variations in *the use* of the longhouse and in *the possibilities* present in the concrete performance of each longhouse.

The ‘use of the longhouse’ is defined by the activities that took place in the house and that are mirrored in most of the phases of the biography of the longhouse. Conceptually, the use of the longhouse reaches beyond what is conventionally called the ‘function of the house’. The function of the house, such as outbuilding, shed, stable, dwelling house or cult house, is traditionally conceived as one general function that designates the role the house once had. The ‘use of the longhouse’ aims instead to encompass the whole range of daily, seasonal and unique uses of the house in all its varied aspects (Brück & Goodman 1999, 4; Ingold 2000, 186). In that context, the ‘function of the house’ does play a role, but the full description cannot be limited to just one thing. In practice, the longhouse was multifunctional, also in ways that go beyond the plain practical uses of the house. Furthermore, when speaking of the ‘use of the longhouse’, the inquiry shifts its main focus away from the house itself and concentrates instead on the interaction between the house and people in and around the house.

Due to the conditions of the archaeological record, the activities that were once carried out in the longhouses at Strøby Toftegård cannot be observed directly but must be deduced indirectly from variations in the framework provided by any given longhouse. Among the longhouses from Strøby Toftegård, a division could be made between ‘complex longhouses’, understood as longhouses with five or more sections (with roof-supporting structures adhering to principles 4 and 5), and ‘simple longhouses’, understood as longhouses with two to four sections (roof-supporting structures following principles 1, 2, 3 and 6).

Based on a fundamental assumption that there was a close link between the layout of the longhouse and the use of it, the more sections and rooms present in the longhouse, the more complex and varied the use of the longhouse must have been, even though a direct one-to-one relationship between one section/room and one activity/function cannot be taken for granted. Furthermore, it must be assumed that the activities in the complex longhouses were activities that benefitted from taking place in the vicinity of each other, such as the daily activities of everyday life, whereas the

less complex longhouses may have housed activities that could, or should, take place in isolation from the rest of the activities of the settlement.

The analysis also showed that a number of longhouses had a hall room that stood out from the rest due to its size. A large room can in itself have served many purposes, but one kind of activity that has been given particular attention within recent archaeological research is the social activities linked to feasting halls known from the Medieval written sources (Herschend 1993; 1997; 1998). From the written sources, the feasting hall is known as a place where people gathered for social and ceremonial activities, including feasts, weddings, ritual celebrations and juridical activities, and as a place where political and social networks were maintained and confirmed. Against that background, feasting halls as a social phenomenon have been connected mainly to the elite networks within society (Brink 1996; 2005; Gansum 2008; Poulsen & Sindbæk 2011; Jessen 2012; Carstens 2015; Baastrup 2016). In the original archaeological definition of a feasting hall presented by Frands Herschend, the hall was interpreted as a special longhouse only serving this particular function (Herschend 1993, 182–3). But since then, large longhouses with particularly large hall rooms have also been linked to the social phenomenon of the feasting hall (*e.g.* Jørgensen 2002; 2009; Söderberg 2005; Carlie 2008; Heimer 2009; Jessen 2012; Carstens 2015; Christensen 2015).

The find of a gold-foil figure in a central posthole in the hall room of House 2, together with six other gold-foil figures found in proximity to the same posthole but not *in situ*, supports interpreting the use of this hall room for extended social and ritual activities, as well as elite networks reaching beyond the settlement of Strøby Toftegård itself (Watt 2008; Baastrup 2016). With this in mind, it is natural to ask whether the hall rooms in the other longhouses had similar uses, despite the fact that the activities in the other hall rooms cannot be identified in the archaeological record. In 50% of the cases, hall rooms are found in ‘complex longhouses’. The other 50% of the hall rooms are found in longhouses with a ‘simple layout’ (only roof-supporting constructions of principle 6). The large room serves well as a social gathering point for larger groups of people, whether the people gathered were the household, other inhabitants from the settlement or guests from outside of the settlement. The hall room may in that sense have served a basic social function even though the activities might not have had the same character or range as those of the feasting hall known from written sources. If houses with hall rooms served specific social purposes, this may also partly explain why the control of access was greater in these houses compared to houses without a hall room, since the social context defined certain ways of behaving when inside the house (see also ‘Inhabiting the longhouse’) (Beck 2014b). Still, differences in access routes and in the control of access to houses with

a hall room indicate differences in the social norms and behaviour – and probably social environment – among the longhouses at Strøby Toftegård. Conversely, the presence of hall rooms in other contexts than the absolute largest and most well-built longhouses suggests that the same norms for social gatherings existed also in more humble contexts, only on a smaller scale (Mikkelsen, Moltsen & Sindbæk 2008, 80).

All in all, houses with different roles and uses, which show as distinctions between complex and less complex longhouses, existed in the settlement of Strøby Toftegård. The ‘complex longhouses’ (with more than five sections) associated with the Late Iron Age settlement are: Houses 1–5, 11–13, 17, 23, 24, 29, 38, 50, 51, 54, 55, 77, K215, K216 and K401. More houses (*e.g.* Houses 86, 57+403 or K316) may originally have been ‘complex’ but cannot be defined as such in the analysis due to poor preservation or because they have not been fully uncovered during the excavation. The majority of the ‘complex longhouses’ concur with the houses interpreted as ‘main houses’ in the analysis of the physical structures of the settlement on the basis of their location, relation to other buildings, size and construction (Beck & Kildetoft Schultz, Chapter 2). These houses probably housed core dwelling and social uses, and many of them had a hall room, extra architectural features such as middle posts and buttresses and were among the largest longhouses of the settlement. Moreover, they were generally better maintained than other longhouses of the settlement. The maintenance may have been an expression of a specific wish to prolong the lifespan of these longhouses because they played a central role in the daily and social life of the settlement as a whole. The ‘simple longhouses’ may have served more specialised uses in the everyday production, crafts and other activities that went beyond the everyday food production. These longhouses were often smaller and rarely had extra architectural features such as middle posts and buttresses, although there are examples of this. Some of the more specialised longhouses had a hall room, which may have had a social use closely linked to those of the more complex longhouses (Houses 9, 18–19, 27, 41, 45, 66–65, 69, 76–77, 90, 93–94, K303, K305, K314 and K319).

The range of performance possibilities for a longhouse is defined by the resources present when planning and building the longhouse. The concept of possibilities is thus linked partly to social status as a concept, but it also goes beyond that. Possibilities are not only defined by the material capacity of the individual but also by what was accepted in and by the community (DeLanda 2006, 15–16).

In the analysis, the variation in possibilities could be observed directly in differences in the size of the longhouses and in the dimensions of timber, but also more indirectly in the architectural elements, such as buttresses or middle posts, that were not vital to the construction but could be added to the longhouse as ‘extra features’. Some longhouses

were categorised as over-dimensioned and some longhouses as under-dimensioned compared to the norm within the settlement. Assuming that any given longhouse always represents 'the best longhouse' possible with the available resources in the situation, the differences in the performance of the longhouse indicate that some of the inhabitants had access to building materials of better quality and in larger quantities than the norm, as well as to the workforce to process and build a house that was more elaborate.

Not only the dimensions but also the additional architectural features influenced the appearance of the longhouse directly. Many of the longhouses built from good quality timber were the same longhouses which had extra architectural features, in the form of buttresses or middle posts supporting the impression of a 'well-built' construction. Even though all longhouses belonged to the same architectural tradition, some must have stood out from the rest due to conscious choices that were available and made during the building process. By demonstrating the capacity of the inhabitants directly in the appearance of the house, these longhouses had a communicative facet to their presence, which was probably socially conditioned rather than functional. This communication must have been directed as much at people living in the house as people around the house, thus confirming and maintaining differences in the social position of the inhabitants within the settlement at Strøby Toftegård.

So, some longhouses stood out as particularly well-built compared to others. The well-built ones include both longhouses with complex layouts (Houses 1–5) and longhouses with more simple layouts (Houses 7, 9, 40, 46, 90 and K301). The well-built longhouses were better maintained.

On the basis of the above analysis, an interpretation of the character of the settlement at Strøby Toftegård can be given. The complex and the simple longhouses are distributed across the entire settlement, placed in between each other, thus indicating that there were no areas of the settlement that served a specialised use. Instead, the longhouses give the impression that the same kind of activities were spread out, suggesting that the settlement consisted of several household units, each unit consisting of one central longhouse and a number of smaller longhouses with specialised uses, rather than one large household as was suggested in the original interpretations.

The well-built longhouses were concentrated around Farm 1 of the settlement, indicating that the inhabitants of this dwelling unit had a privileged social position compared to the rest of the settlement. This unit had features that were not found in any of the other dwelling units. First of all, it had a sequence of five well-built longhouses all having hall rooms, extra features and complex layouts. These longhouses were also the largest in the settlement. Two of the well-built longhouses of this unit were demolished in extraordinary ways, either by being buried under

water-rolled stones (House 4) or being burnt down (House 5), which must have been events that involved more people than just the household. The unit had fewer longhouses with simple layout and simple constructions compared to the other dwelling units. However, a group of smaller longhouses connected to the unit were located within a fenced-off area. Fenced-off areas were not found in any of the other units and this may indicate that these longhouses had a special role. Even though the lack of finds from the archaeological record cannot reveal the use of these longhouses more specifically, there is a possibility that they served as, for example, specialised workshops, particularly well-protected storage buildings or buildings with ritual use (Jørgensen 2009). A privileged social position was probably accompanied by commitments to the surrounding community. Some of the houses in the central unit may have been used in ways that reached beyond their own household, such as being social gathering points for the local community or social institutions within the surrounding society. Such communal use can have given the houses a significant meaning not only to the people inhabiting it but to the whole community, and this in turn may have resulted in a common interest in not only maintaining these houses but also having them 'closed down' in extraordinary ways that involved the whole community.

In conclusion, the settlement at Strøby Toftegård can be characterised as a settlement consisting of several contemporary dwelling units. One dwelling unit stands out due to the better quality of its buildings and longhouses, and it may have served special, communal functions for the settlement as a whole. The inhabitants of this unit probably had a high social position in the settlement and in the surrounding society. Interestingly, though, this high social status was not marked by specialised architecture, although such has been emphasised in the interpretation of other sites, including Tissø, Järrestad and Toftum Næs (Jørgensen 1998; 2009; Söderberg 2005; Bican 2010; Jessen & Terkildsen 2016). Instead, the same architectural tradition was used throughout the settlement, and many of the architectural features represented in this unit were also found in the other units within the settlement, only on a smaller scale or poorer performed. This is a feature that has also been emphasised in the interpretation of the longhouses at Lejre (Christensen 2015).

Compared to the original interpretation based on the categorisation of the longhouses as either main houses or outbuildings, the new interpretation might at first glance seem to simply repeat the original categorisation, but it does in fact distinguish itself in several ways.

First of all, the interpretation has been argued on the distinct basis of the archaeological record. Secondly, the biographical perspective has ensured that the longhouses were not described as static beings but as dynamic ongoing processes of becoming. With the study of the biography of

the longhouses' components, relations and processes present in the production and reproduction of the assemblages of the longhouse have been identified and described. In this way, the biographical approach has also been fruitful in terms of asking new questions of the archaeological record and thereby bringing attention to new aspects of the longhouses (Kopytoff 1986, 67). Even if the questions cannot always be answered, they provide inspiration for future investigations that might be better able to answer them.

Finally, the categorisation of the longhouses has been nuanced by a more complex understanding where the mere categorisation of houses as 'main building' or 'outbuildings' cannot be maintained. By deliberately not assigning the houses different values as either primary ('main houses') or secondary ('out building'), all longhouses are given roles in the creation of the settlement and are seen as equally important for our understanding of the settlement (Ingold 2000, 185–188; Buchli 2013, 140–144). A more complex understanding of the longhouses leaves space for a more complex interpretation of the settlement as a whole. Concretely, the interpretation has been refined by perceiving the settlement as several contemporary dwelling units rather than one large unit. On a more general level, the settlement itself now appears as an assemblage made up of a collection of smaller assemblages represented by the individual longhouses. To some, it might seem that the interpretation has become more 'muddled'. Instead of basing the interpretation on predefined categories that each longhouse fits more or less successfully into, the boundaries between the new categories are diffuse and overlapping. However, this is quite deliberate in the intention of producing a description and interpretation that is closer to a fluent reality where meanings and uses of houses can be reproduced, changed, stopped and reappear. The aim has been to get closer to grasping and reproducing some degree of the 'mess of daily life' as it was experienced in the past.

Most importantly, however, the analysis has demonstrated that the character of the settlement is defined by the relations and entanglements between the longhouses and the people in and around them rather than solely by the individual houses themselves (Tringham 1994, 191; Brück & Goodman 1999, 14; Ingold 2013, 70; McFadyen 2013, 139; Bille & Sørensen 2016b, 12). In short, the assemblage and the biographical perspective open up the possibility of a more complex as well as more dynamic image of Late Iron Age settlements by not only looking at what the houses are but also at how the people living in, with and around the longhouses engaged with them.

Appendix A

The data used for the analysis in the article *Living in, with and around the longhouses at Strøby Toftegård. A biographical approach to longhouse architecture in the Late Iron*

Age and Viking Age is presented in Appendix A. The data is extracted from the house catalogue and the individual house plans but has in some cases been further processed (e.g. calculated averages and estimated lengths). Only data from longhouses is included in Appendix A.

Data in Appendix A is recorded according to the following codes:

House = The ID of the house.

R-S structure = The fundamental construction of the roof-supporting structure; 0 = unknown, 1 = one-aisled, 2 = two-aisled, 3 = three-aisled.

Middle posts = The presence or absence of middle posts in the house construction; 0 = unknown, y = yes, n = no.

R-S principle = The principle of the layout of the roof-supporting structure; 0 = unknown, 1–6 = according to Fig. 3.10.

Estimated length = If both gables are identified, the length is as measured; if only one gable is identified, it is assumed that the distance from the roof-supporting structure to the missing gable equals the identified gable; 0 = unknown, otherwise given in meters.

Size, classes = The estimated length of the longhouse categorised after size class; 0 = unknown, 1 = >34 m, 2 = 23–30 m, 3 = 17–23 m, 4 = <17 m.

Diam. R-S posthole, average = The calculated average of the diameter of the postholes for the roof-supporting structures (in cm).

Depth, R-S posthole, average = The calculated average of the depth of the postholes in the roof-supporting structures (in cm).

Dimensioned = Assessment based on the relationship between the average diameter of the postholes in the roof-supporting structure and the length of the longhouse; 0 = unknown, 1 = under-dimensioned (the diameter of the postholes is less than the average), 2 = normal-dimensioned (the diameter of the postholes is average), 3 = over-dimensioned (the diameter of the postholes is more than the average).

Constructions, long sides = Character of the archaeological features identified at the long sides of the house; 0 = unknown, 1 = posts, 2 = posts + ditch.

Long sides, curved or straight = The shape of the long house based on the long sides; 0 = unknown, 1 = straight, 2 = curved.

R-S structure, curved or straight = The shape of the roof-supporting structure; 0 = unknown, 1 = straight, 2 = curved.

Buttresses = Postholes at the long sides identified as buttresses or not; 0 = unknown, y = yes, n = no.

No. sections = Number of sections identified inside the longhouse; 0 = unknown, 1–7 = actual number of sections.

Hall room = The presence or absence of a hall room inside the longhouse; 0 = unknown, y = yes, n = no.

No. entrances = Number of entrances identified in the longhouse; 0 = unknown, 1–4 = actual numbers.

Entrance principle = The location of the entrances within the longhouse; 0 = unknown, 1 = central location, 2 = located at the gables, 3 = a combination of 1 and 2.

Replaced posts, all = The total number of identified replacements of posts in the longhouse construction; 0 = none; otherwise the actual number.

Post impressions = The presence of post impressions in one or more postholes in the roof-supporting

structure, gables or long sides; 0 = unknown, y = yes, n = no.

Posts removed at demolition = Identified traces of pulling or digging up the post from one or more postholes of the roof-supporting structure, gables or long sides; 0 = unknown, y = yes, n = no.

Burnt clay in postholes = Burnt clay has been found in one or more postholes of the roof-supporting structure, gables or long sides; 0 = unknown, y = yes, n = no.

Burnt stone in postholes = Burnt stones have been found in one or more postholes of the roof-supporting structure, gables or long sides; 0 = unknown, y = yes, n = no.

<i>House</i>	<i>R-S structure</i>	<i>Middle-posts</i>	<i>R-S principle</i>	<i>Est. length</i>	<i>Size, classes</i>	<i>Diam., R-S posthole, average</i>	<i>Depth, R-S posthole, average</i>	<i>Dimensioned</i>	<i>Constructions, long sides</i>	<i>Long sides, curved or straight</i>	<i>R-S structure, curved or straight</i>
1	3	n	5	38	1	68.90	42.08	2	1	2	2
2	3	y	5	40	1	71.62	31.31	2	1	2	2
3	3	y	5	37	1	55.57	24.36	2	1	2	2
4	3	y	5	37	1	92.14	56.21	3	2	2	2
5	3	n	5	35	1	93.83	54.67	3	1	2	2
6	3	n	3	14	4	43.67	27.00	2	1	2	1
7	3	n	2	14	4	48.75	23.00	3	1	2	0
8	3	n	3	0	0	35.00	41.33	0	0	0	1
9	3	y	1	0	0	56.67	28.25	0	1	2	0
10	3	n	3	19	3	40.60	25.29	2	0	0	2
11	3	n	4	24	2	49.00	22.31	2	1	1	2
12	3	n	4	23.5	2	44.86	17.50	2	1	1	2
13	3	y	5	27	2	36.40	18.33	1	1	2	2
14	3	0	0	0	0	36.00	13.00	0	0	0	0
15	3	n	2	0	0	36.50	14.25	0	0	0	0
16	3	y	2	9.2	4	40.40	22.80	2	1	1	0
17	3	n	4	0	0	43.43	30.88	0	0	0	2
18	3	n	6	13	4	50.75	26.80	3	1	2	0
19	3	n	6	16	4	42.00	15.00	2	1	2	0
20	3	n	2	13	4	57.00	24.25	3	1	2	0
22	3	n	2	16	4	33.00	22.50	2	0	0	0
23	3	n	4	23	2	42.10	19.62	2	1	1	1
24	3	n	5	24	2	43.86	20.75	2	1	2	2
25	3	n	3	0	0	35.20	15.50	0	0	0	2
26	3	n	1	0	0	47.50	12.50	0	0	0	0
27	3	n	6	16	4	38.25	27.00	2	1	2	0
28	3	0	3	20	3	58.25	31.00	3	1	2	1
29	3	y	5	28	2	51.88	29.20	2	1	2	2

(Continued)

<i>House</i>	<i>R-S structure</i>	<i>Middle- posts</i>	<i>R-S principle</i>	<i>Est. length</i>	<i>Size, classes</i>	<i>Diam., R-S posthole, average</i>	<i>Depth, R-S posthole, average</i>	<i>Dimen- sioned</i>	<i>Constructions, long sides</i>	<i>Long sides, curved or straight</i>	<i>R-S structure, curved or straight</i>
30	3	n	2	16	4	35.50	18.80	2	1	2	0
31	3	n	2	13.3	4	31.50	18.60	2	1	1	0
32	3	n	2	12.8	4	26.00	19.75	2	0	0	0
33	3	n	2	0	0	33.00	16.25	0	0	0	0
34	3	n	2	0	0	30.50	9.75	0	0	0	0
35	3	n	2	14	4	32.33	19.67	2	1	2	0
36	3	n	2	11	4	35.75	14.50	2	1	1	0
37	3	n	2	0	0	32.00	15.50	0	0	0	0
38	3	n	0	12.5	4	27.00	18.50	2	1	2	0
39	3	n	3	14	4	32.50	26.00	2	1	1	2
40	3	n	1	10.5	4	58.50	24.50	3	1	2	0
41	1	n	0	11	4	25.25	15.25	2	1	1	0
42	3	n	2	16.5	4	30.00	21.50	2	1	2	0
43	3	n	1	0	0	30.00	26.00	0	0	0	0
44	3	n	3	0	0	28.00	26.83	0	0	0	1
45	3	y	6	16	4	31.00	10.29	2	1	2	0
46	3	n	2	15	4	65.50	39.75	3	1	2	0
47	3	n	4	0	0	33.14	19.33	0	1	1	2
48	3	n	3	0	0	29.00	10.43	0	0	0	2
50	3	y	5	37	1	52.20	30.82	2	1	2	2
51	3	n	5	37	1	33.00	23.11	1	1	0	2
52	3	n	1	12	4	26.50	22.00	2	1	2	0
53	3	n	3	14.8	4	37.33	24.50	2	0	0	2
54	3	n	4	0	0	37.86	18.38	0	0	0	1
55	3	n	4	0	0	31.43	14.38	0	0	0	1
56	3	0	0	0	0	33.83	19.40	0	0	0	0
57	3	0	0	0	0	51.00	39.50	0	0	0	0
58	3	n	5	22	3	28.70	22.00	1	0	0	2
59	3	n	3	15.3	4	25.50	18.17	1	1	1	1
60	3	n	3	0	0	35.80	20.69	0	0	0	2
61	3	n	3	0	0	33.00	12.75	0	0	0	1
62	3	n	2	0	0	34.75	13.00	0	0	0	0
64	3	n	3	0	0	32.00	28.80	0	0	0	1
65	3	n	6	18	3	31.00	11.67	2	1	2	0
66	3	n	3	0	0	30.80	26.50	0	0	0	2
67	3	n	3	22.5	3	41.25	32.25	2	1	2	2
68	3	0	4	0	0	33.25	17.17	0	0	0	2
69	3	y	6	18	3	32.80	19.80	2	1	2	0
70	3	n	2	0	0	26.25	11.75	0	0	0	0
71	3	n	1	0	0	32.50	17.00	0	0	0	0
72	3	n	2	14	4	37.67	16.75	2	1	0	0

(Continued)

<i>House</i>	<i>R-S structure</i>	<i>Middle- posts</i>	<i>R-S principle</i>	<i>Est. length</i>	<i>Size, classes</i>	<i>Diam., R-S posthole, average</i>	<i>Depth, R-S posthole, average</i>	<i>Dimen- sioned</i>	<i>Constructions, long sides</i>	<i>Long sides, curved or straight</i>	<i>R-S structure, curved or straight</i>
74	3	n	3	0	0	36.25	21.20	0	0	0	1
75	3	n	2	0	0	51.67	17.00	0	0	0	0
76	3	n	6	15	4	32.00	25.67	2	1	2	0
77	3	n	5	21	3	29.43	20.57	1	0	0	1
79	3	n	4	17	4	46.40	29.57	2	1	2	1
80	3	n	2	0	0	26.00	14.80	0	0	0	0
81	3	0	0	0	0	28.71	21.29	0	0	0	1
82	3	n	4	0	0	44.00	21.50	0	0	0	2
83	3	n	4	16	4	38.50	19.17	2	1	2	1
86	3	n	3	18.6	3	42.83	20.50	2	0	0	2
88	3	0	0	0	0	32.00	15.00	0	1	0	0
89	3	n	0	0	0	27.33	23.50	0	0	0	0
90	3	y	1	9	4	37.67	30.00	2	2	2	0
91	3	n	2	13.5	4	0	0	0	1	2	0
93	3	n	6	0	0	40.50	30.75	0	0	0	0
94	3	n	6	0	0	53.75	19.25	0	0	0	0
95	3	n	1	0	0	25.00	9.50	0	0	0	0
201	3	0	0	0	0	36.50	13.20	0	0	0	0
212	3	n	3	0	0	27.83	17.00	0	0	0	1
213	3	n	2	0	0	23.00	11.80	0	0	0	0
214	3	n	2	0	0	27.75	9.75	0	0	0	0
215	3	n	4	18.5	3	39.50	18.25	2	0	0	2
216	3	n	4	19.5	3	28.88	13.50	1	0	0	2
301	3	n	2	13	4	56.00	18.60	3	1	2	0
302	3	n	2	12.5	4	30.50	21.75	2	1	2	0
303	3	n	6	14	4	39.67	23.86	2	1	2	0
304	3	n	2	0	0	27.75	31.50	0	0	0	0
305	3	n	6	15	4	35.33	17.40	2	1	2	0
311	3	n	4	0	0	31.60	12.90	0	0	0	1
314	3	n	6	13	4	52.20	24.83	3	1	1	0
315	3	n	2	13	4	29.17	24.50	2	1	2	0
316	3	0	0	0	0	41.00	25.20	0	1	0	0
319	3	n	6	15	4	39.75	13.25	2	0	0	0
401	3	n	4	21.5	3	32.14	16.86	1	1	2	2
402	3	n	0	0	0	41.75	44.25	0	1	0	0
403	3	0	0	0	0	51.50	19.25	0	1	2	0
410	3	0	0	0	0	40.00	28.60	0	0	0	0
419	3	n	1	0	0	34.5	41.5	0	0	0	0
423	3	0	0	0	0	33.89	20.33	0	0	0	2

<i>House</i>	<i>Buttresses</i>	<i>No. sections</i>	<i>Hall room</i>	<i>No. entrances</i>	<i>Entrance principle</i>	<i>Replaced posts, all</i>	<i>Post impressions</i>	<i>Posts removed at demolition</i>	<i>Burnt clay in postholes</i>	<i>Burnt stone in postholes</i>
1	y	7	y	4	2	1	y	y	y	y
2	y	7	y	4	2	4	y	y	y	y
3	y	6	y	3	2	8	y	y	y	y
4	y	6	y	3	2	5	n	y	y	y
5	y	7	y	3	2	1	n	y	y	n
6	0	4	n	0	0	0	y	y	n	y
7	n	3	n	1	1	0	n	0	n	y
8	0	4	n	1	1	0	n	y	n	n
9	0	3	y	0	0	4	n	y	y	n
10	0	4	n	0	0	1	y	y	n	y
11	n	7	n	2	1	10	y	y	y	y
12	n	7	n	2	1	14	y	y	y	y
13	0	5	y	3	3	15	n	0	y	y
14	0	0	0	0	0	0	y	0	n	y
15	0	3	n	0	0	0	y	0	y	y
16	0	3	n	0	0	1	y	y	y	n
17	0	5	n	0	0	2	n	y	y	y
18	0	3	y	1	1	6	y	y	n	y
19	0	3	y	0	0	1	n	0	n	y
20	0	3	n	2	1	4	y	0	y	y
22	0	3	n	0	0	1	y	0	n	y
23	0	6	n	3	3	6	y	y	n	y
24	0	5	y	0	0	2	n	y	y	y
25	0	4	n	0	0	1	y	y	n	y
26	0	2	0	0	0	0	n	0	n	y
27	0	3	y	0	0	10	n	0	y	y
28	y	4	n	2	1	6	y	y	y	y
29	y	5	y	3	3	5	y	0	y	y
30	0	3	n	0	0	2	n	y	n	y
31	0	3	n	2	3	7	n	y	n	y
32	0	3	n	0	0	2	n	y	y	y
33	0	3	n	0	0	0	n	n	n	y
34	0	3	n	0	0	0	y	y	n	n
35	0	3	n	0	0	0	y	y	y	y
36	0	3	n	1	1	1	y	y	y	y
37	0	3	n	1	1	0	y	0	y	y
38	0	5	n	1	1	1	y	y	y	n
39	n	4	n	3	3	0	y	0	y	y
40	0	2	n	0	0	1	y	y	n	y
41	0	1	y	1	1	0	y	0	n	y
42	0	3	n	0	0	0	y	0	n	y

(Continued)

<i>House</i>	<i>Buttresses</i>	<i>No. sections</i>	<i>Hall room</i>	<i>No. entrances</i>	<i>Entrance principle</i>	<i>Replaced posts, all</i>	<i>Post impressions</i>	<i>Posts removed at demolition</i>	<i>Burnt clay in postholes</i>	<i>Burnt stone in postholes</i>
43	0	2	0	0	0	0	y	0	n	y
44	0	4	n	1	1	0	y	0	n	y
45	y	3	y	1	2	3	y	0	y	y
46	0	3	n	2	2	6	y	0	n	y
47	0	0	0	0	0	1	y	0	n	n
48	0	4	n	0	0	2	0	0	y	n
50	0	6	y	3	1	3	y	y	y	y
51	0	6	y	1	1	0	y	0	y	y
52	0	2	n	2	3	4	y	0	n	n
53	0	4	n	1	1	3	y	y	n	y
54	0	5	n	1	2	0	n	0	n	y
55	0	5	n	1	1	0	y	0	y	y
56	0	0	0	0	0	0	n	y	y	n
57	0	0	0	0	0	0	y	y	n	y
58	0	6	y	0	0	0	y	y	y	n
59	n	4	n	2	3	0	y	0	n	y
60	0	4	n	0	0	0	n	0	y	y
61	0	4	n	0	0	0	n	0	y	y
62	0	3	n	0	0	0	n	0	n	n
64	0	4	n	0	0	0	n	y	y	y
65	0	3	y	1	1	0	n	0	y	y
66	0	4	y	0	0	0	y	y	y	y
67	0	4	n	2	2	17	y	0	y	n
68	0	0	0	1	2	6	y	y	y	y
69	0	3	y	0	0	0	y	0	n	y
70	0	3	n	0	0	0	n	0	y	y
71	0	2	0	0	0	0	n	0	y	n
72	0	3	n	0	0	0	n	0	n	n
74	0	4	n	0	0	4	n	y	n	y
75	0	3	n	0	0	2	n	y	n	y
76	0	3	y	1	2	3	n	y	y	y
77	0	5	y	0	0	1	n	0	y	y
79	0	4	n	1	2	2	n	y	n	y
80	0	3	n	0	0	2	y	y	y	y
81	0	0	0	0	0	1	n	0	n	y
82	0	5	n	1	2	6	n	y	y	y
83	0	4	n	1	2	1	n	y	n	y
86	0	4	n	0	0	1	n	y	y	y
88	0	0	0	0	0	0	n	0	y	y
89	0	3	n	0	0	0	n	0	n	n
90	0	3	y	1	2	2	y	y	y	y
91	0	3	n	1	1	0	0	0	0	y

(Continued)

House	Buttresses	No. sections	Hall room	No. entrances	Entrance principle	Replaced posts, all	Post impressions	Posts removed at demolition	Burnt clay in postholes	Burnt stone in postholes
93	0	3	y	0	0	2	n	0	n	y
94	0	3	y	0	0	0	n	y	n	y
95	0	2	n	0	0	0	n	0	n	y
201	0	0	0	0	0	1	n	0	y	y
212	0	4	n	0	0	0	y	y	n	n
213	0	3	n	0	0	2	n	0	n	n
214	0	3	n	0	0	0	y	y	n	n
215	0	5	n	0	0	1	n	y	n	n
216	0	5	n	0	0	0	n	y	y	n
301	0	3	n	1	1	2	n	y	y	y
302	0	3	n	1	3	0	n	0	y	y
303	y	3	y	1	2	4	y	y	n	y
304	0	3	n	0	0	2	y	y	n	y
305	0	3	y	0	0	4	y	y	y	y
311	0	6	n	2	1	0	n	0	y	y
314	0	3	y	0	0	4	n	y	y	y
315	0	3	n	0	0	3	y	y	y	y
316	0	0	0	0	0	3	y	y	n	y
319	0	3	y	0	0	3	y	y	y	y
401	0	5	n	1	2	7	y	0	n	y
402	0	3	n	0	0	0	n	0	n	y
403	0	0	0	0	0	0	n	y	y	n
410	0	0	0	0	0	0	y	y	y	y
419	0	2	0	0	0	0	y	0	n	n
423	0	0	0	0	0	0	n	0	n	y

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Pits, wells and cultural layers at Strøby Toftegård

Maja Kildetoft Schultz

Abstract

In connection with the excavations at Strøby Toftegård, a large number of pits, cooking pits and wells, as well as remains of cultural layers, were excavated across the site. The pits vary, from smaller ones with few layers and items to deep ones with many layers and relatively many objects. A significant proportion of the pits are cooking pits that are clearly linked to Farm 1 with the great longhouses and should be seen as part of the activities reserved for the magnate in connection with either ritual meals or gatherings to affirm and create alliances. Deep pits and wells, on the other hand, exist across the surrounding settlement (Farms 2–9). The article presents selected wells and pits, for example a pit that is interpreted as a sacrificial site because a fragment of a human skull was found here. One deep pit is interpreted as a covered latrine on the basis of analyses of macro fossils and pollen. Hitherto, this latrine is the only one of its kind known from Viking Age Denmark. The feature was initially interpreted as a well due to its shape and depth. In light of the new knowledge about this feature's function, it is possible that a number of other features previously described as wells and pits might be latrines.

Keywords: Wells, pits, cooking pits, feasts, banquets, sacrificial pit, latrine, Viking Age, Late Germanic Iron Age

Apart from a large number of houses, some of which are large and well built, 508 pits also were registered at Strøby Toftegård (Fig. 4.1). A small number of the pits can be dated to the Neolithic and the Bronze Age given the items they contained, but the vast majority is presumed to be contemporary with the settlement on the basis of the objects they have yielded, AMS dating or – for the cooking pits – similarities with other dated features combined with their location on the site.

A characterising trait at Strøby Toftegård is Farm 1 with the five great longhouses that follow one another in chronological sequence and are located in roughly the same place together with an extensive, more varied and changeable settlement surrounding this farm. The area with the great longhouses is called Farm 1 and regarded as the magnate's residence, while the remaining settlement is called Farms 2–9 and regarded as more ordinary residences. Both text and illustrations refer to these two sections of the settlement, see

e.g. Beck & Kildetoft Schultz, Chapter 2 for a more detailed description of the separation into farm units.

The pits at Strøby Toftegård constitute a heterogeneous group of features that vary in shape, fill and depth, just like the number of items found in them vary greatly. Pits is thus a collective designation used for features whose original function is often hard to determine with precision. In some cases, however, it is possible to interpret the function of pits as, for instance, cooking pits on the basis of the presence of layers of charcoal, fire-cracked stones and heat-affected soil along the sides of the pit.

A large number of pits on the site are interpreted as cooking pits. Moreover, one pit is interpreted as a latrine and one as a sacrificial pit.

The excavation methods used and the extent of documentation of the 508 pits vary somewhat. Of the pits on site, 89% have been excavated, albeit with some variation in terms of method, ranging from pits whose entire fill has

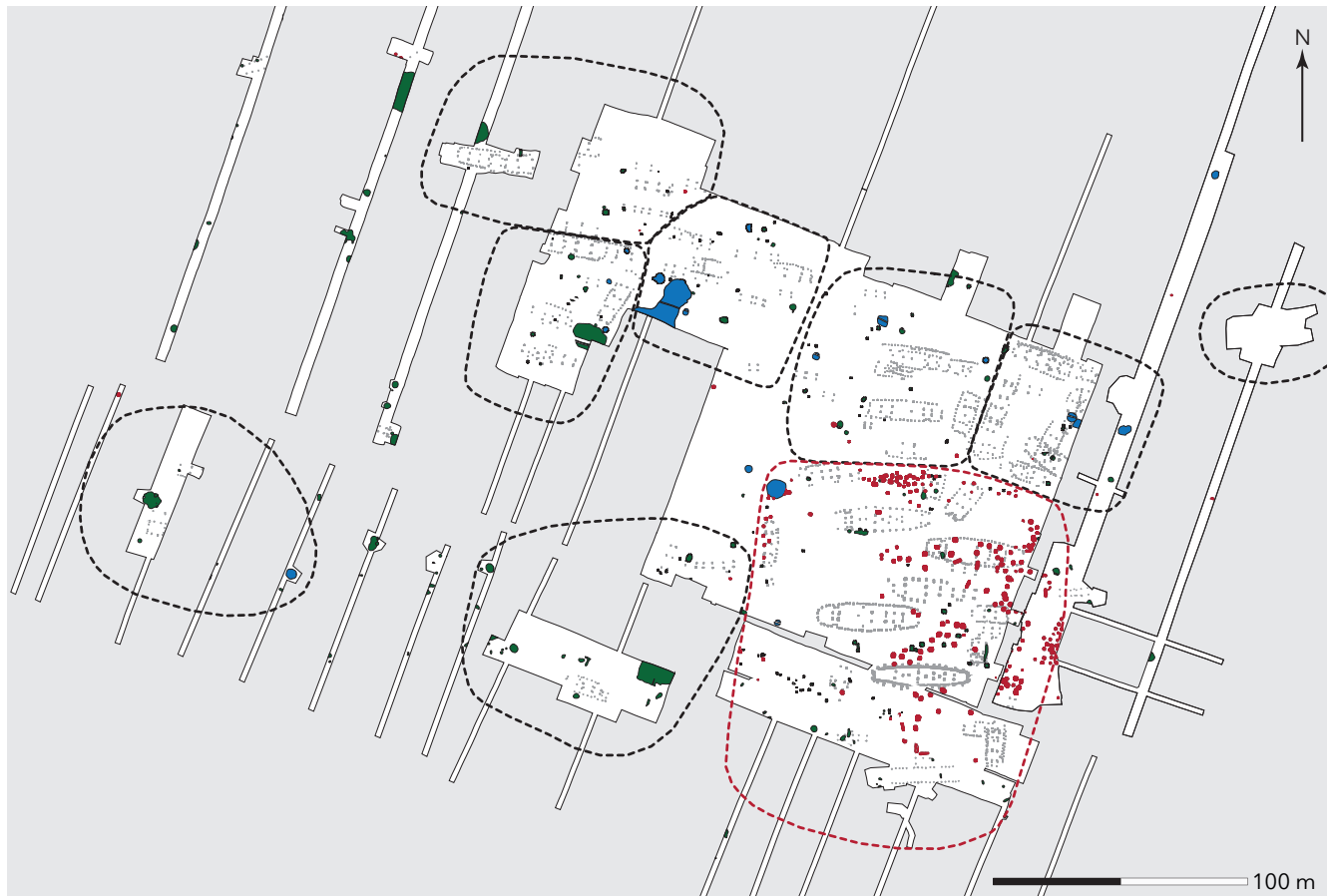


Fig. 4.1. Overview of the excavated area, including the location of cooking pits (red), pits (green) and wells (blue) at Strøby Toftegård. Farm 1 is indicated with a red dotted line and the remaining farm units with a black dotted line. Only postholes belonging to house structures are included. Illustration: Museum Southeast Denmark.

been sieved, some that have been drawn to scale while others have merely been sketched and described in notebooks, or modestly excavated but not described.

By far the most pits on the site were excavated in the period 1995–2000, and only few soil samples for, for example, macro-fossil analysis and the like were taken from the pits. From the excavations conducted between 2011 and 2013, some soil samples were taken and, in some cases, these have been able to determine the function or date of the pit (see Henriksen & Mortensen, Chapter 5).

In the following, a survey will be presented that encompasses wells, cooking pits and special pits, as well as location on the site and a brief description of selected items. The items are considered in more detail in other chapters in this volume (Baastrup, Chapter 7; Hårdh, Chapter 9; Kildetoft Schultz, Chapter 8; Sode, Chapters 10 and 11).

For the purposes of a brief comparison with other sites, searches have been conducted in the national database of sites and monuments (*Fund & Fortidsminder*). These searches do not yield a complete picture of the distribution of the types of features across Danish sites, but they

nonetheless give an impression of what the situation is within a larger region. Searching the database was useful in the present context, because features of these types are rarely the main focus in presentations of excavations. From known sites such as Sædding, pits are mentioned in just one brief passage, although around 200 of them were found (Stoumann 1979, 115).

In the catalogue, the features are described within the categories of wells, pits and cultural layers. For each feature, the diameter, depth, any objects found and drawing number are noted. The catalogue can be accessed online here: <https://natmus.dk/cultsites/>.

Wells

Excavation method

Of the 24 features registered as wells or possible wells at Strøby Toftegård, section drawings exist for about half (A11164, A11750, A11800, A12548, A12700, A13010, A13217, A13231, A13239, A13755, A20343, A30565, A30939). The rest are either described as wells in excavation

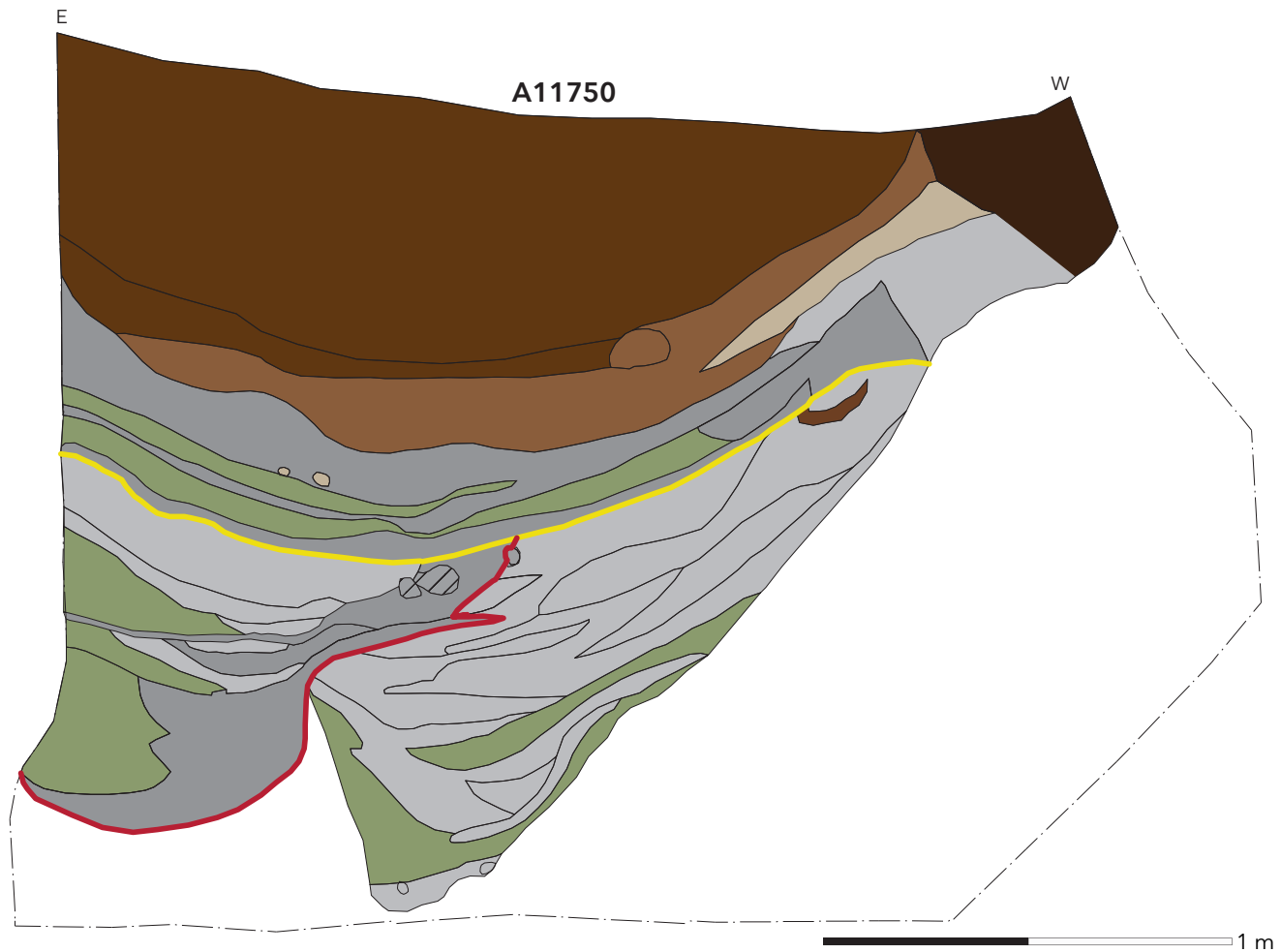


Fig. 4.2. Section drawing of cistern A11750. The phases of the cistern are indicated in yellow and red lines. Layers described as silty layers are indicated with grey and green. Brown and black indicates fill layers. Illustration: Museum Southeast Denmark.

reports or in notebooks, though often without very much information. The excavation of the wells was in several cases done using a JCB, and sometimes the well was covered up again shortly after because water was seeping through. In other cases, the uppermost layers were excavated by hand, and the well was then fully excavated using a JCB. The number of finds made from wells is, therefore, in most cases limited (Woller 1998, 85). In connection with the more recent excavations in 2011–13, a series of soil samples were taken from wells. Seven samples from one well, A30565, have been analysed. The results are published in Peter Steen Henriksen and Morten F. Mortensen's contribution (Chapter 5).

The construction of wells and cisterns

The archaeologists grouped the wells into two types during the excavation campaigns of 1996–1998 (Woller 1998, 85), of which one type did not in connection with the excavation reveal clearly water-bearing strata and should thus be regarded as a kind of cistern for collecting rainwater

(A11164, A11581, A11750, A11800). Features described as actual wells, on the other hand, have clearly water-bearing strata at the bottom (A12515, A12548, A12832, A12833, A13010, A13217, A13230, A13239, A13984, A13996). During later excavations, no such differentiation was made, and features were interpreted as wells on the basis of water-deposited sediment layers or shape and depth (A20221, A20257, A20343, A20484, A30785, A30939). To these belong a group of possible wells (A12367, A12700, A13230, A13231, A13755), which might be wells because of either their shape and depth or due to water seeping into the feature, but where no water-deposited layers have been registered, and so another function cannot be excluded.

Generally, both cisterns and wells contain ordinary settlement waste at the top, while the bottom holds layers of water-deposited soil. In a few of the cisterns there were signs of clearing, since the water-deposited layers of silt or loam had been dug through before the feature once more became filled with material. In section drawings, both wells

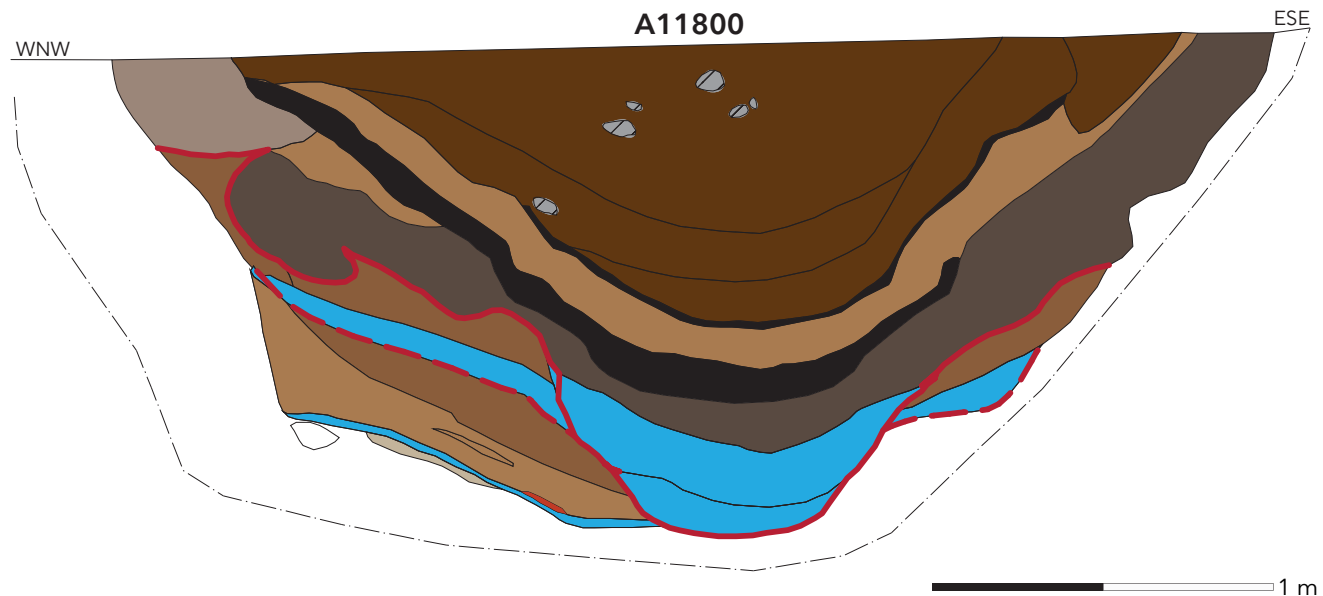


Fig. 4.3. Section drawing of cistern A11800. The feature was cleared at least once (red line) and has water-deposited layers at the bottom. Blue indicates water-deposited layers. Illustration: Museum Southeast Denmark.

and cisterns often appeared funnel-shaped, but a few had straight sides and only narrowed in a little towards the bottom. The depth of the excavated wells varies between c. 1 m and 2.5 m, and most have a diameter of about 2–4 m at the top. Neither wooden lining nor stone lining has been definitively found in the wells.

Two of the cisterns have been cleared, A11750 and A11800. The cistern A11750 has been cleared twice and the last phase has not been dug as deep as the first two, but water-deposited layers of silt or loam still show at the bottom, revealing that the well continued to function despite the shallower depth. At the end, the well was filled with a relatively homogeneous layer of waste containing some charcoal and burnt clay (Fig. 4.2). Only a small amount of pottery, burnt clay and bones were found in A11750.

The cistern A11800 has two, perhaps three, phases – one older phase with approximately the same diameter at the top and the bottom, and a younger phase with a smaller diameter at the bottom (Fig. 4.3). The objects found in A11800 include a sandstone spindle whorl (Kildetoft Schultz, Chapter 8, cat.no. 708), a fire striker (Kildetoft Schultz, Chapter 8, cat.no. 472), a few nails and possibly the pin for a brooch (Baastrup, Chapter 7, cat.no. 127). The items were found in the fill layers of the well.

Locations of the wells

The wells are located especially in the northern part of the excavated area outside Farm 1 and, on the basis of their locations, they are interpreted as belonging to, respectively, Farms 2–7. The wells appear to be associated with Farm 2 (A20257), Farm 3 (A11164, A11581 and A13010), Farm 4

(A12515, A12832, A12833, A13217 and A13230), Farm 5 (A12367, A12548, A13231 and A13239), Farm 6 (A12700), and Farm 7 (A30939) (see Beck & Kildetoft Schultz, Chapter 2). Only two – A13996 and A13984 – lie in the vicinity of the great longhouses. A13996 has been dated to the Viking Age on the basis of an arrowhead found there (Baastrup, Chapter 7, cat.no. 274). No drawing of the well has been made, but it is described in the reports as a well in which wood has been preserved. A13996 was not fully excavated, as there was a desire to preserve the wood for later excavation (Woller 1998, 85). The same goes for A13984 immediately west of A13996 (see Fig. 4.4 and Fig. 4.16). Re-excavation of these two wells is still pending. The well A13996 stands out from the remaining wells by having a horizontal diameter of 7.5 m, that is, at least twice as big as the other wells.

A13755 is located on the south-western outskirts of Farm 1 and is possibly a well. The feature has no clear water-deposited layers at the bottom, but it is funnel shaped and relatively deep (Fig. 4.5). The feature yielded surprisingly few finds (only faunal material and a few sherds of pottery), considering its location within the precincts of Farm 1. The traces of features in the south-western corner of Farm 1 consist mainly of smaller pits and postholes that do not appear to form part of any structures. Taken together, the features and the low number of finds suggest that this corner deviates from the remaining part of Farm 1.

Items found in wells

The inventory of objects appears to reflect mainly settlement waste in the form of faunal remains and pottery, which is

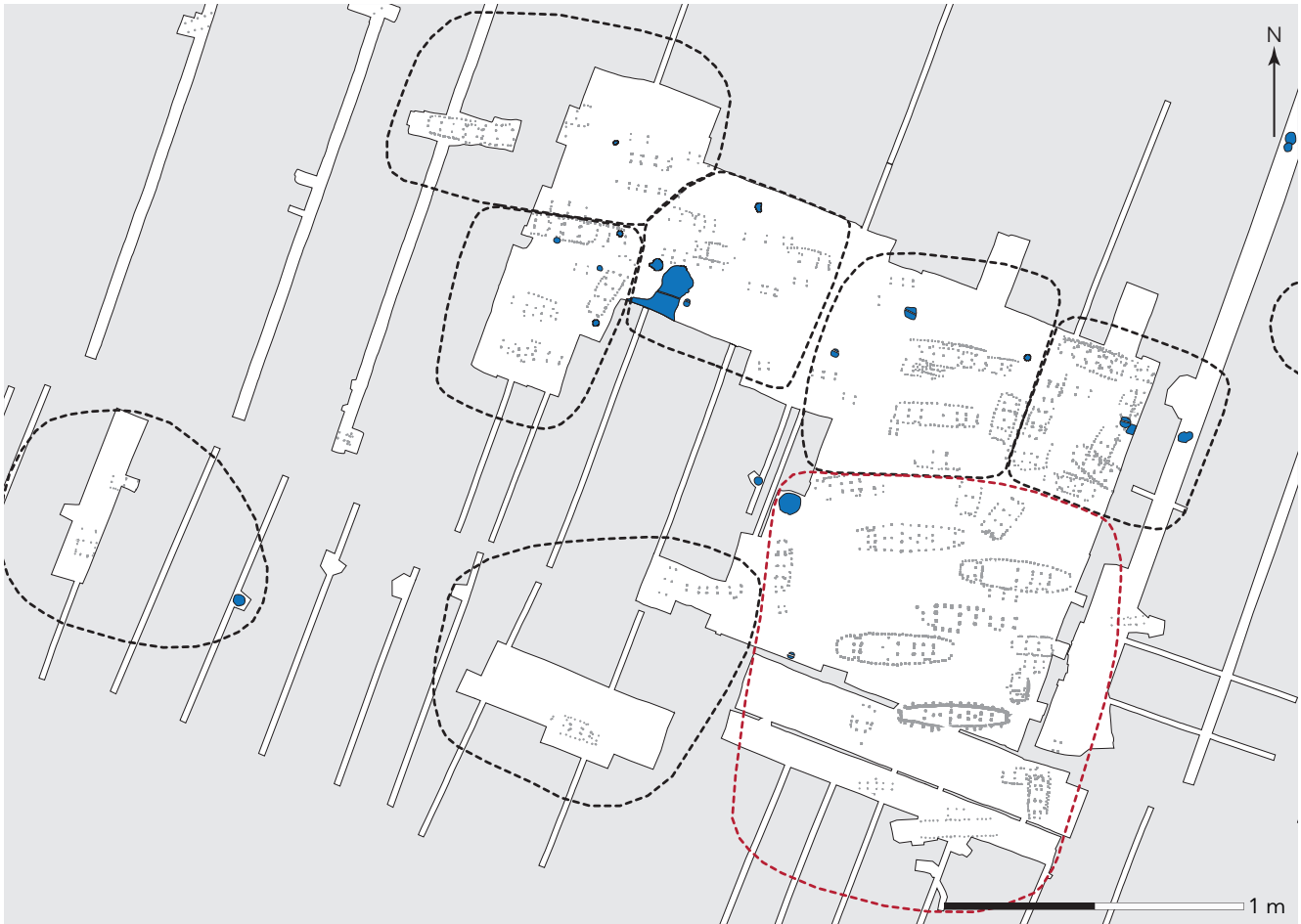


Fig. 4.4. Excavation plan showing house structures and the distribution of wells (blue) at Strøby Toftegård. Only the wells A13996, A13984 and A13755 are located near Farm 1 (red dotted line), all peripherally. A13996 has not been fully excavated, since some wood is preserved in this well and this was left to be excavated at a later time. Illustration: Museum Southeast Denmark.

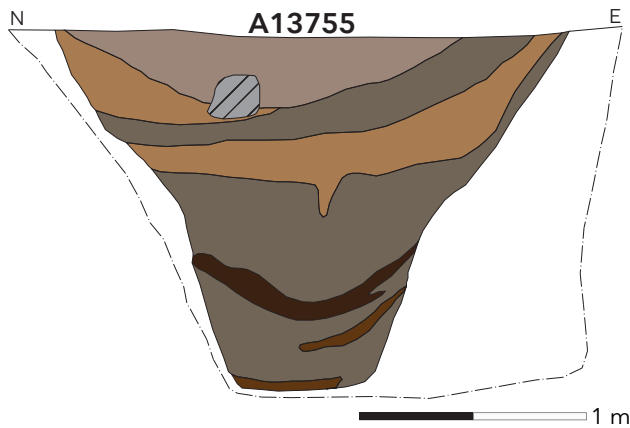


Fig. 4.5. Section drawing of A13755. A13755 was located on the western periphery of Farm 1 and described during excavation as a well or pit. Illustration: Museum Southeast Denmark.

obviously linked to the fact that the upper layers are the ones excavated manually and that these layers represent a phase when the pit was filled in. The deeper layers are often machine excavated, which results in fewer finds. However, the inventory of objects from the wells does include items, such as two glass beads (Sode, Chapter 10, x1012, x1042), two arrowheads (Baastrup, Chapter 7, cat.no. 274, 287) and one bird-shaped brooch (Baastrup, Chapter 7, cat.no. 27), as well as spindle whorls (Kildetoft Schultz, Chapter 8, cat.nos 708, 716) and fragments of bone combs (Kildetoft Schultz, Chapter 8, cat.nos 685, 686).

One of the wells that yielded quite a few finds is A13010 (Fig. 4.6) which, apart from the more ordinary types of objects such as bone and pottery, contained also a bird-shaped brooch (Baastrup, Chapter 7, cat.no. 27) and possibly an arrowhead (Baastrup, Chapter 7, cat.no. 287), as well as iron objects such as a knife (Kildetoft Schultz, Chapter 8, cat.no. 453), an iron hook (Kildetoft Schultz, Chapter 8, cat.no. 505) and

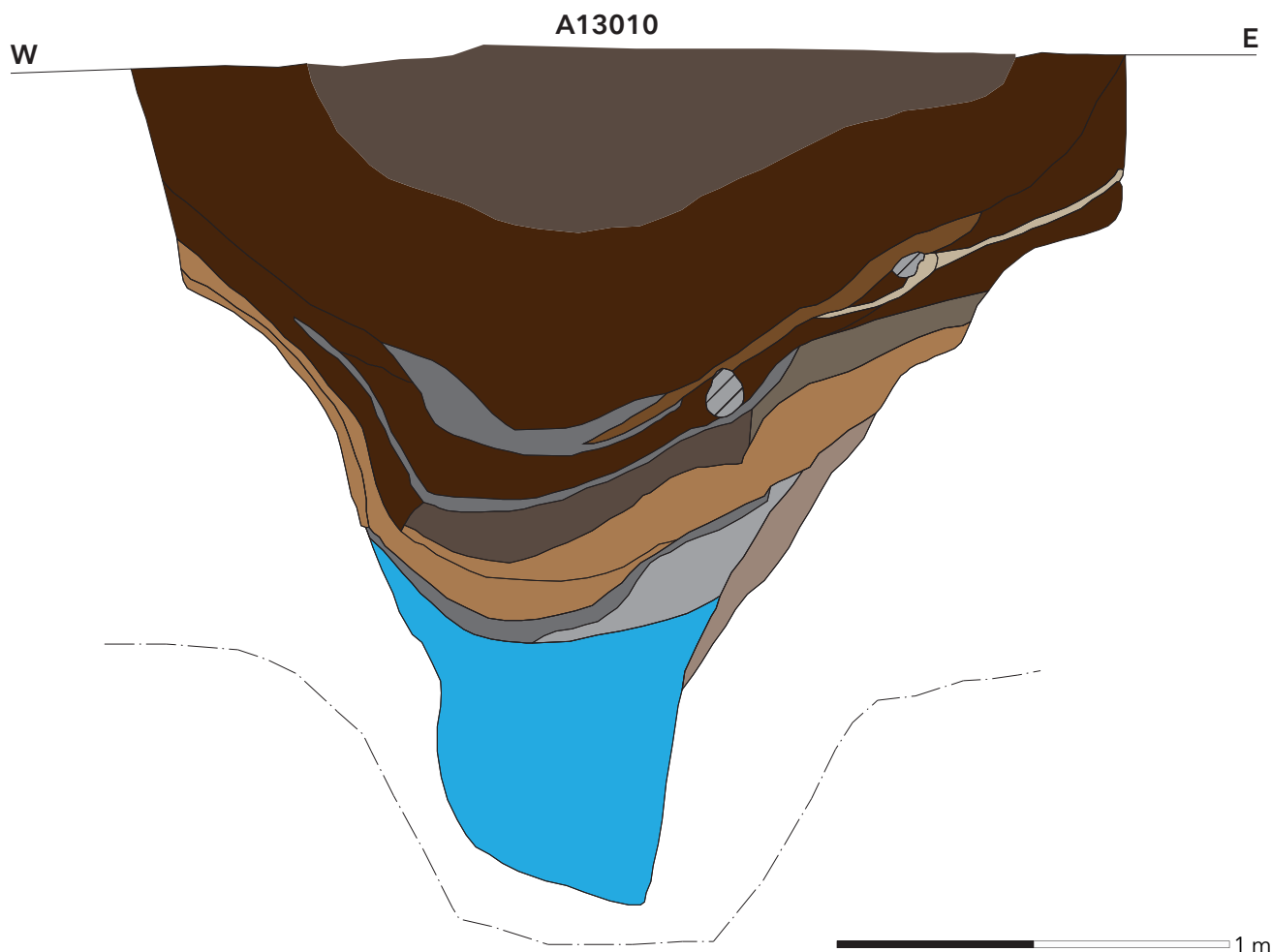


Fig. 4.6. Section drawing of well A13010 (blue indicates water-deposited layers). The well, which contained a number of objects, is located in the area between Farm 3 and 4. Illustration: Museum Southeast Denmark.



Fig. 4.7. A bird brooch from well A13010, cat.no. 27 (Baastrup, Chapter 7).

a socket (Kildetoft Schultz, Chapter 8, cat.no. 552) (Fig. 4.7). Unlike most of the other features, this one yielded rather a lot of pottery. There are sherds from several different vessels, primarily common greyish-brown and greyish-black settlement pottery with various shapes of rims and a medium to rough tempering.

The faunal material from the wells varies from just a few to several hundred bone fragments. This material is treated by Anne Birgitte Gotfredsen in Chapter 6.

Dating the wells

There are no radiocarbon dates from the wells at Strøby Toftegård, but several of them can be dated to the Late Iron Age on the basis of finds.

Wells from other sites

A search in the national database for sites and monuments, specifying wells as the feature type and Viking Age as the date, yields 29 sites (see Table 4.1). This must be regarded as a minimum of sites, since many published sites with wells, such as Sædding, Trabjerg, Bejsebakken, Vester Egesborg and Trelleborg (Stoumann 1980, 113; Bender Jørgensen & Skov 1979, 129; Sarauw 2019, 114; Ulriksen 2018, 77; Nørlund 1948, 36), do not turn up in the search. At most of the published sites, and in the overview from the national database for sites and monuments, there are between one

Table 4.1. Sites with wells dated to the Late Germanic Iron Age and the Viking Age that are registered in the national database of sites and monuments (Fund & Fortidsminder).

Parish no.	Location no.	Name	Feature	Number	Dating AD
10203	178	Langkærs Mose	Well	1	750–1066
10301	212	Solrødgård VI	Well	1	550–749
20109	44	Åbrinken	Well	3	550–1066
20410	162	M11 Lindenbergvej Nord I	Well	1	750–1066
20410	160	M11 Lindenbergvej Syd	Well	1	750–1066
30106	94	Kalmargården	Well	3	550–1066
30110	362	Melby	Well	1	550–749
30403	472	Skamlebæk Radiostation	Well	1	750–1066
30505	151	Ballen Færgehavn, vejprojekt. Etape 1	Well	5	750–1066
40320	53	Ormeslev Gammelkro	Well	1	550–899
50101	37	Kildebjergs Agre, Bjæverskov	Well	2	550–749
50603	52	Arnøje	Well	1	750–1066
50604	90	Gjorslev	Well	1	735–760
50612	74	Strøby	Well	20	750–1066
80102	28	Sellebjerg	Well	1	750–1066
80408	13	Villestofte Skovgyde	Well	2	750–1066
80811	105	Svendsagervej	Well	2	550–749
90108	170	Rynkebyvej Vest	Well	2	750–1066
90601	142	Sandbjerggård Nordvest	Well	1	750–1066
120506	83	Bejsebakken	Well	1	655–682
130303	200	Sejlgård	Well	1	750–1066
130709	45	Mammen	Well	1	900–1066
140214	91	Højbjerg	Well	1	750–1066
140214	89	Højbjerg	Well	1	750–1066
140802	18	Holbæk Lergrav	Well	1	750–1066
140805	23	Ørsted	Well	1	750–1066
141102	64	Egå Gymnasium	Well	1	850–1050
150104	8	Stikkedal Bakke II	Well	1	750–1066
150606	85	Ølstedvej II	Well	1	750–1066
170811	68	Petersborg	Well	18	550–1066
180106	219	Enggård Øst	Well	1	550–899
190108	54	Dollerupgård	Well	1	750–1066
190409	67	Seminarievej 4	Well	1	750–1066
190411	90	Vester Vedsted	Well	1	751
190513	131	Peder Hedesvej, Tjæreborg	Well	1	900–1066
190806	160	Søndergård	Well	1	750–899
210103	98	Enderup	Well	1	750–1066
210103	219	Gl. Hviding	Well	4	550–749
210103	57	Gl. Hviding	Well	1	900–1066
210103	67	Mark	Well	1	750–1066
220102	153	Søndermosen	Well	1	750–1066

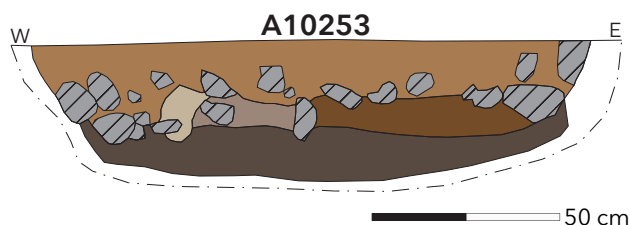


Fig. 4.8. Section drawing of cooking pit A10253 from the central part of Farm 1. The cooking pits often had a layer of charcoal at the bottom, a large number of burnt stones and, at the top, a layer of fill, which contained most of the items found in the feature. Additionally, there were often traces of high temperatures in the form of red-coloured patches in the soil surrounding the sides of the pit. Illustration: Museum Southeast Denmark.

and three wells per site. The number of wells at Strøby Toftegård thus stands out, and one explanation may be that many of the other sites had additional opportunities for obtaining freshwater. There are no springs in the vicinity of Strøby Toftegård, and the closest system of water courses is Tryggevælde Å, located just under 2 km from the settlement.

Cooking pits

A total of 233 features from Strøby Toftegård are described as cooking pits, constituting *c.* 4% of all features and about half of all pits. Analyses of macro fossils conducted for selected cooking pits show that 25 cooking pits contain no macro fossils apart from charcoal, while three contained charred grains and seeds from weed plants (A20403, A20435, A30542). The cooking pits A20403, A20435 and A20437 are dated from a single radiocarbon date to, respectively, ^{14}C (95%): AD 780–785/880–990, ^{14}C (95%): AD 885–995 and ^{14}C (95%): AD 715–745/765–890.¹ The results are presented in Peter Steen Henriksen and Morten F. Mortensen's contribution (Chapter 5).

Excavation method

By and large all (97%) of the cooking pits on the site have been excavated, and in some instances the fill has been fully or partially sieved. There are no systematic records of which specific layers in the relevant pits yielded finds, but in descriptions it is often noted that they were found in the uppermost layers of fill. Items from pits are thus an expression of what went on in the areas around the cooking pits rather than of what the actual function of the pits was. In connection with surveying the faunal material from Strøby Toftegård, Anne B. Gotfredsen has noted that material from the cooking pit generally is more crumbled and fragmented than similar material from other pits (Gotfredsen, Chapter 6). This crumbling and fragmentation thus suggest that the contents of cooking pits were to a greater degree exposed to wind and weather. This might mean that

the cooking pits were left open and have only gradually filled up, rather than having been used as rubbish dumps once they no longer served as cooking pits.

The construction of the pits

It is characteristic of the cooking pits that they are usually round, with a diameter of 1 to 2 m and a depth of between 5 and 45 cm, most of them *c.* 20–40 cm. In most cases, the sides are slightly rounded, while the bottom is flat or slightly rounded. The fill often contained densely packed, fire-cracked stones, while a layer of charcoal was visible at the bottom, in several cases containing large, coherent pieces of charred wood. In some places, the surrounding soil had patches that were coloured red as a result of being exposed to high temperatures (Fig. 4.8). The stones in these pits were often also affected by heat and coloured black on the bottom. At the top of the pits there was often a layer of brownish topsoil that is regarded as fill and not connected to the function of the pit (Woller 1998, 79).

Location

The cooking pits are found almost exclusively around Farm 1 and they surround the great longhouses to the north-west, while they are more scattered to the south-east. Of the 233 pits described as cooking pits, 206 are located within the area with the great longhouses. To the north and north-west, the cooking pits are placed in a fairly clearly delimited section going around the great longhouses and, although no fence has been registered, the location of the cooking pits suggest than one such probably existed. In the south-eastern part of the area with the great longhouses, the cooking pits partly surround the great longhouses, partly they occur sometimes between and sometimes overlapping with the houses (Figs 4.9 and 4.10). Especially at House 1, a number of cooking pits appear, judging by stratigraphic observations, to be both earlier and later than the house (Fig. 4.11). Houses 2, 3, 4 and 5 only to a very limited extent have stratigraphic correlation with the cooking pits. It seems possible to some extent to separate the cooking pits out into a chronological sequence (see Beck & Kildetoft Schultz, Chapter 2).

Within Farms 2–9, 27 cooking pits have been registered, 12 of which were found by means of a trial trench in the north-western part of the site. Some of these cooking pits have been excavated, but no items were found, nor has any scientific dating been done, so the chronological affiliation to the other cooking pits is not certain. The remaining 15 cooking pits are scattered and were found mainly by means of trial trenches.

Items found in cooking pits

Just over a quarter of the cooking pits yielded finds. About 10% have been sieved, either half of the pit (3.15%) or the whole pit (6.75%).

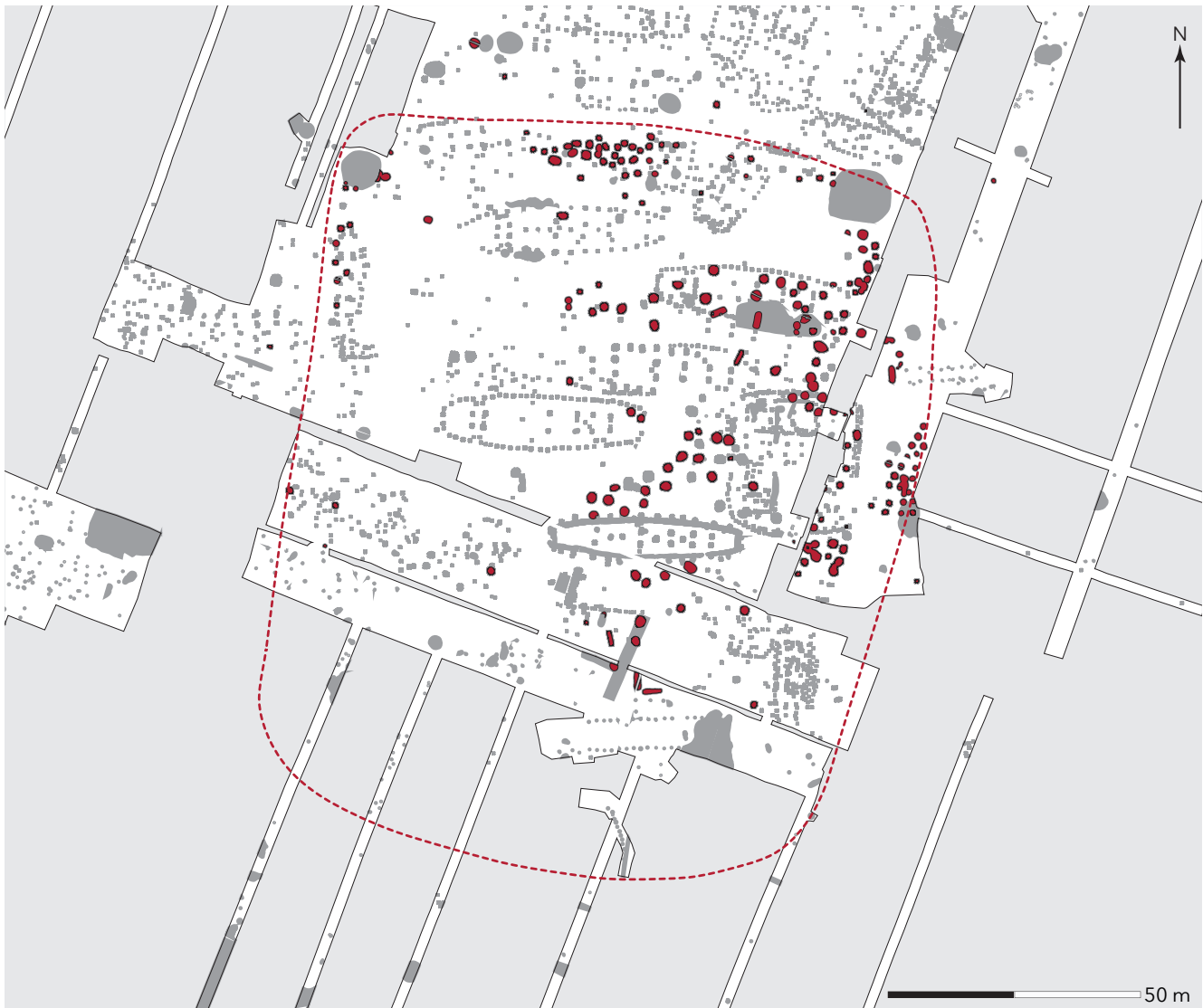


Fig. 4.9. Map of Farm 1 with the distribution of all features and cooking pits at Strøby Toftegård. Very few cooking pits (red) lie outwith Farm 1 with the great longhouses (shown with a dotted line). Illustration: Museum Southeast Denmark.

The most common finds comprise bone fragments, pottery, indeterminable iron fragments and slag, all of which also commonly occur in other pits on the site. However, the inventory of items stands out, since some of the cooking pits contain a larger proportion of, for example, glass sherds, imported goods and keys than do other pits. This is probably mainly due to the location of the cooking pits close to Farm 1 with the great longhouses, where the number of items is generally higher compared with the surrounding farm units.

Sherds of glass were found in six of the cooking pits (A10004 (x125, x126, x155, x156, x326, x334), A10282 (x389), A10292 (x384–388), A10699 (x475–477, x479–480), A10783 (x688), and A30165 (x1079–1080)), often several fragments in the same pit. The glass sherds generally occur in a pattern whereby the great majority were found within Farm 1 with the great longhouses (Sode, Chapter 11),

so it is not strange that the cooking pits in this area also contain a large proportion of glass sherds. In cooking pit A10004, three beads were found (x134, x329, x335), and in A10109 one (x470).

Three keys were found in three different cooking pits (A10004 (cat.no. 415), A10050 (cat.no. 410), A10783 (cat. no. 414)). Two of the keys are made of copper alloy while the third is of iron (Kildetoft Schultz, Chapter 8).

In two of the cooking pits, A10545 and A10294, were found some fragments of imported hanging bowls. One piece is possibly a fragment of a vessel rim made of copper alloy and stemming from an Insular hanging bowl (Baasrup, Chapter 7, cat.no.151), while the other is a dragon-like silver fitting that has been exposed to very high temperatures (Baasrup, Chapter 7, cat.no. 148). The latter was found uppermost in pit A10545, so it is likely that the



Fig. 4.10. Map showing only houses and cooking pits (red). Farm 1 is shown with a dotted red line. To the north and west, the cooking pits appear to delimit the area with the great longhouses, while the cooking pits are more scattered to the east, especially around House 1. Illustration: Museum Southeast Denmark.

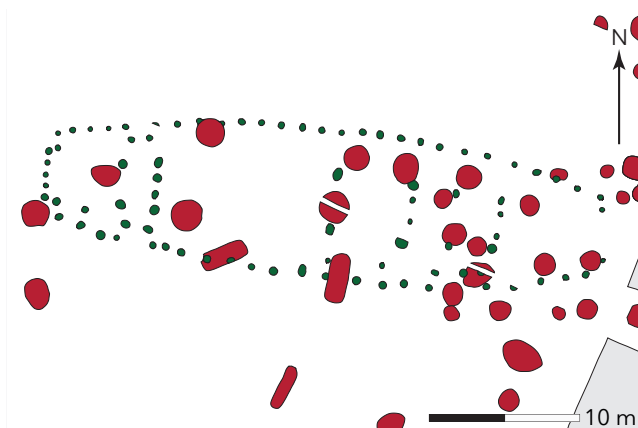


Fig. 4.11. Detailed plan showing cooking pits and House 1. Stratigraphic observations indicate that the cooking pits (red) near House 1 (green) were both earlier and later than House 1. House 1 is probably the second youngest of the great longhouses, and the cooking pits were thus still part of the activities within Farm 1 during the last phases of the lifespan of the site. Illustration: Museum Southeast Denmark.



Fig. 4.12. Photograph of a silver fitting from an Insular vessel (cat. no. 148, Baastrup, Chapter 7) found in cooking pit A10545. Photo: Jens Olsen, Museum Southeast Denmark.

heat-exposure did not occur in the pit but before the item ended up in its fill (Fig. 4.12).

The presence of glass sherds, beads, keys and imported goods in the cooking pits reflects the items discovered as stray finds in the plough soil around the great longhouses.

The circumstances of silver coins and arrowheads are different. Although a total of 45 arrowheads or fragments of such were found in the plough soil, only one came out of a cooking pit. A significant proportion of the arrowheads from the site were found in the plough soil in the area with the great longhouses. The same goes for the Arabic silver coins, which are also found predominantly within Farm 1, but are not at all represented in the cooking pits. Two of the silver coins were found in postholes of Houses 2 and 45, respectively, while the rest are stray finds. The absence of arrowheads and silver coins from the cooking pits may be accidental, but it might also mean that these two types of objects were kept in such a way that they were less likely than other objects to end up in the waste during the lifespan of the settlement.

Comparing finds from postholes (both those that belong to structures and those that do not) of Farm 1 with finds from cooking pits, it emerges that about 15% of the objects found in postholes are made of metal or glass, while close to 60% of the objects found in cooking pits are made of either metal or glass.

Apart from the cooking pits, another 10 pits are located within Farm 1 and resemble cooking pits in terms of shape and location, but without charcoal, burnt stones or red colouring of the surrounding soil. Also these pits yielded a number of finds (see *e.g.* A10115, A10458, A11083).

Dating and function

Some of the cooking pits can be dated to the Viking Age on the basis of either ¹⁴C-dates or objects. The locations and uniformity of the pits nonetheless render it likely that they belong to the period when the magnate farm was in use, despite the lack of dateable material.

Stratigraphic observations show that some of the cooking pits are later than, for example, House 1, while others are earlier (see Fig. 4.11). House 1 is assumed to be the second last of the great longhouses to be erected. Other than this, there are only few places where one of the great longhouses intersects with the cooking pits. However, two cooking pits near House 4 must be regarded as older than the house. House 4 is regarded as the second of the great longhouses to be erected, which suggests that the cooking pits were part of the activities at Farm 1 throughout the period when the five great longhouses were in use.

Feasts, alliance banquets and gatherings

Large occurrences of cooking pits – often found in connection with settlements – are known in the Danish area from especially the transition between Early and Late Bronze Age and up until the transition between Roman and Germanic Iron Age, and they are interpreted as gathering sites associated with special events (Henriksen 2005, 92). Cooking pits from the Viking Age are not uncommon, but the number of cooking pits at Strøby Toftegård is unusual,

and they are clearly linked to Farm 1. The large number of cooking pits and their association with the great longhouses can be interpreted to the effect that they are the remains of feasts and times when many people were gathered at the site. Feasting is known from the written sources to have been part of the pre-Christian Scandinavian belief systems (Jørgensen 2014, 131; Söderberg 2005, 245–252), and it may be in this light that the many cooking pits at Strøby Toftegård should be seen. One of the more unusual types of objects found at Strøby Toftegård are *guldgubber*. In all, eight *guldgubber* were found, seven of them within Farm 1. The *guldgubber* are discussed by Maria P. Bastrup (Bastrup, Chapter 7) and the suggestion has been made that they functioned as a token of invitation within an elite-controlled network. The cooking pits linked to the magnate's residence may be the physical remains of cooking for gatherings of specially invited people. The activities that were carried out at such gatherings may, as mentioned, have been cultic, but they may also have been profane, oriented around political, legal or military issues (Ødegaard 2019).

Cooking pits are also known from the magnate sites of Lejre and Tissø in Zealand. Both places feature one row of cooking pits. At the magnate locality of Lejre, the cooking pits were only recognised in connection with magnetometer surveys, which led to the discovery of a c. 80-m-long row of features. During later (partial) excavation, the row turned out to be cooking pits that were contemporary with the period during which the site was in use, namely the Viking Age (Christensen 2015, 229). In Lejre, too, the cooking pits are placed in the periphery of the hall area. At Tissø in western Zealand, a row of pits oriented north–south has been registered. Apart from a thin layer of charcoal at the bottom, these pits did not contain any objects, but on the basis of stratigraphic observations, they are regarded as being contemporary with the magnate complex (Jørgensen 2009, 339). At all three sites, the cooking pits belonged to the magnate farm, located peripherally to the great halls or longhouses. The cooking pits at Strøby Toftegård differ from the neatly arranged rows at Tissø and Lejre by being both greater in number and by being placed in a more scattered way with several sequences. Piles of fire-cracked stones were found at both Lejre and Tissø, just like at Järrestad in southern Sweden, where Bengt Söderberg has suggested that they were used in connection with cooking food (Söderberg 2005, 247). In Lejre and Tissø, these piles are read as cairns or *hørg*, holy or cultic sites where rituals were performed.

No piles of fire-cracked stones are found at Strøby Toftegård, but many such were found scattered in the plough soil, especially south of House 4, and it has been suggested that they come from a ploughed-out stone pile (see Beck, Chapter 3). The number and location of the cooking pits

suggest a long-standing tradition of feasts linked to the magnate at Strøby Toftegård.

Cooking pits from the Late Iron Age

The many cooking pits at the great longhouses of Strøby Toftegård are a conspicuous element within the settlement. As mentioned above, rows of Viking Age cooking pits are found at the magnate farms of Tissø and Lejre, and the tradition of preparing food in earth ovens seems to be connected to the magnate's functions.

In order to be able to make comparisons with other sites, the national database for sites and monuments has

Table 4.2. Number of sites featuring cooking pits, based on a search of the national database of sites and monuments (Fund & Fortidsminder) and grouped into chronological periods.

<i>Archaeological period</i>	<i>No. sites</i>
Stone Age	102
Bronze Age	774
Pre-Roman Iron Age	48
Roman Iron Age	86
Germanic Iron Age	23
Viking Age	15

been searched. The database does not provide a complete picture, but it can give an indication of the occurrences of a given type of feature. Searching the database for cooking pits reveals that these occur at some 4800 sites spread out across the country, with almost one in four (22%) being dated. Of the dated cooking pits, 774 stem from the Bronze Age (74%), while the remaining periods are represented with between 15 and 102 sites (0.3% and 1.8%; see Table 4.2).

In the area spanning from central Jutland to Bornholm, 21 known sites from the Late Germanic Iron Age and the Viking Age have cooking pits (Table 4.3). So, it is a relatively small proportion of sites that have cooking pits dated to the Late Germanic Iron Age and the Viking Age and, moreover, each of the sites that do have them usually have only between one and four cooking pits. At the locality Tværhøjgård near Greve in eastern Zealand, however, there are 27 cooking pits (Fig. 4.13). A total of 11 ¹⁴C-dates from nine of these cooking pits have been obtained, with all of them falling within the Late Germanic Iron Age and the Viking Age (Villumsen 2019). These cooking pits were found on the outskirts of a trial excavation, and the settlement that is expected to belong with the cooking pits was not localised within the area that was searched. It is thus unknown what the wider context of these cooking pits is.

Table 4.3. Sites with cooking pits dated to the Late Germanic Iron Age and the Viking Age, based on a search of the national database of sites and monuments (Fund & Fortidsminder).

<i>Parish no.</i>	<i>Location no.</i>	<i>Name</i>	<i>Feature</i>	<i>Dating AD</i>	<i>No.</i>
10102	150	Helsingvej 37	Cooking pit	550–650	1
10110	249	Sulehøj	Cooking pit	611–690	1
20501	42	Tværhøjgård	Cooking pit	550–1066	27
30307	62	MHO1082-3 Rute 23	Cooking pit	550–899	2
60104	192	Bækkelund	Cooking pit	750–1066	1
60104	195	Ladegård	Cooking pit	750–1066	1
60104	187	Vejrbakken	Cooking pit	750–1066	1
60205	208	Skagelfaldet	Cooking pit	750–1066	1
80204	232	Stovgård	Cooking pit	750–1066	1
80401	67	Lundebakken 1-3	Cooking pit	900–1066	1
90703	24	Kragnæs	Cooking pit	750–1066	1
131202	16	Kjølvejen	Cooking pit	750–1066	4
140214	91	Højbjerg	Cooking pit	750–1066	4
140214	88	Højbjerg	Cooking pit	750–1066	3
140214	89	Højbjerg	Cooking pit	750–1066	1
140214	90	Højbjerg	Cooking pit	750–1066	1
141002	47	Højvangen 16	Cooking pit	750–1066	1
141011	79	Bøjstrup	Cooking pit	750–1066	1
160405	204	Gammel Rye	Cooking pit	750–1066	1
170901	102	Bredstenlundvej 3	Cooking pit	550–1066	1



Fig. 4.13. Portion of the trial excavation KNV00584 Tverhøjgård, Greve parish, with cooking pits. Out of 27 in total, nine have been dated. All dates fall within the Late Germanic Iron Age and the Viking Age. The presumed settlement that accompanies the pits was not located during the investigation, but it may well lie outwith the area that was searched, since the pits were placed on the outskirts of the investigated area. Illustration: Museum Southeast Denmark.

Special pits

A12620 – sacrificial pit

In the north-western part of the excavation, a pit, A12620, has been excavated. Horizontally, on the excavation plan, it was visible as a round feature with a diameter of 250 cm. In the section, the topmost c. 90 cm are visible as two layers of, respectively, dark brownish-grey and brownish-grey sandy topsoil and a number of fire-cracked stones. In the bottommost c. 45 cm, there are several, often narrow, layers, which are in some cases described as slightly silty, which suggests that the pit has been open at some points in time. In one of these narrow layers, a concentration of animal bones was found (Fig. 4.14).

Apart from a large number of animal bones, among these a horse skull, five iron nails or studs were found (cat.nos 567, 568, 614, 615, 617, 618), as well as a lozenge-shaped rove for a clench bolt (cat.no.592), an iron fitting (cat. no. 494), an iron knife (cat.no. 440), slag and a few unadorned pottery sherds (Kildetoft Schultz, Chapter 8).

It is noteworthy that this pit also yielded a fragment of a human skull which, together with the almost complete horse skull, renders the faunal material from this pit different from others on the site. The skull fragment itself has

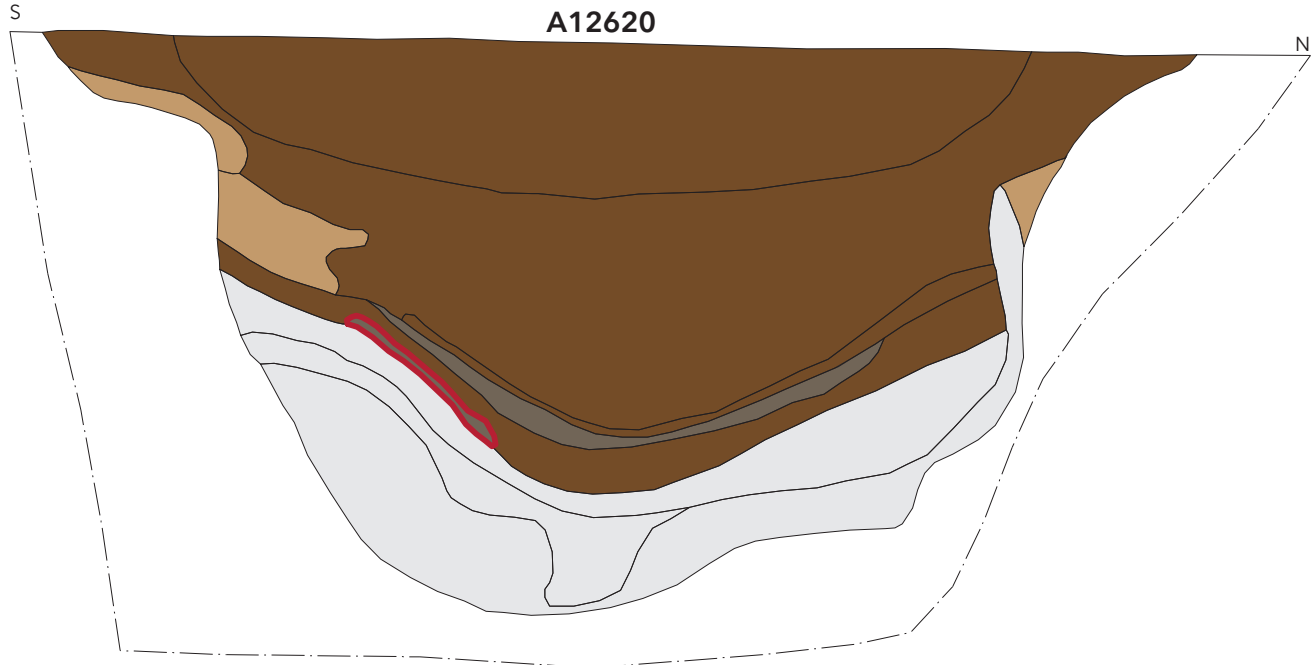


Fig. 4.14. Section of pit A12620, which alongside ordinary settlement waste contained an almost intact horse skull (from layer marked with a red line) and a fragment of a human skull. The layers (grey) at the bottom of the pit show that the pit was left open for a period of time and may have been filled with water; as silt has settled among the layers. Illustration: Museum Southeast Denmark.

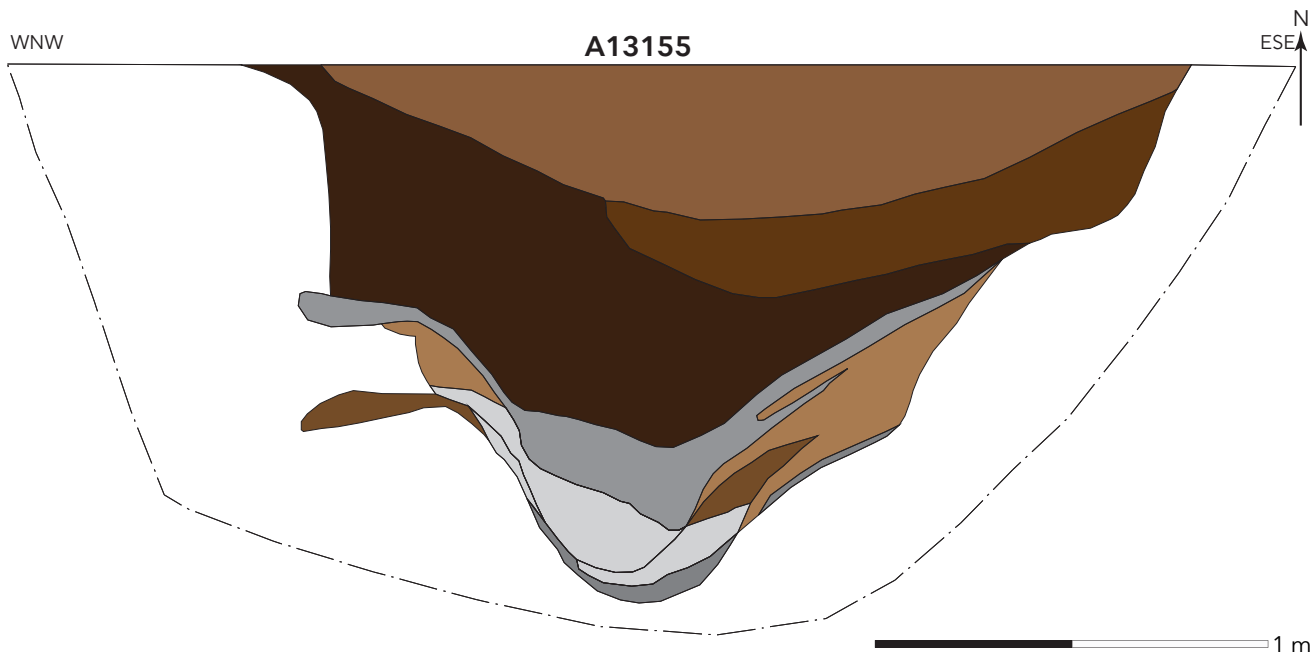


Fig. 4.15. Section of pit A13155, which, like A12620, contained parts of a horse skull. Several of the layers within the pit are described as silty (grey layers at the bottom) and this suggests that the pit was left open for a period of time, and that sediments have settled in the pit. Illustration: Museum Southeast Denmark.

not been dated and it may thus be older than the Viking Age. At other sites, such as Tissø and Trelleborg, wells containing horse skulls and human remains have been interpreted because of these finds as sacrificial wells. The sacrificial well at Tissø may have certain similarities with A12620, since this, too, is perhaps better described as a sacrificial pit that was left open during a longer spell of time. The faunal material from the sacrificial well at Tissø, however, comprises a total of 16 animals, while the pit at Strøby Toftegård sports only one horse skull. Moreover, the sacrificial pit at Tissø revealed a division into remains from meals and from butchery in the upper part of the pit and whole skulls and larger bones in the bottom part of the pit (Jørgensen *et al.* 2014, 196).

A12620 is located at Farm 6 on the outskirts of the settlement area. The sacrificial well at Tissø was not located near the hall either, but at the market site, and perhaps the offerings in the open wells represent public rituals.

The sacrificial wells at Tissø and Trelleborg contained horse skulls, like A12620. At Strøby Toftegård, only three whole or almost whole horse skulls were found. Human bones are rarely found in the context of settlements but are nonetheless known from four Danish sites (Trelleborg, Ribe, Århus, Vester Egesborg) and four Swedish sites (Eketorp, Storgård, Ströja, Vettrinärv) from the Late Iron Age (Eriksen 2020, tab. 1; Ulriksen 2018, 491 note 10). It therefore seems very probable that horse and human skulls are not coincidental, but are the result of deliberate actions, and the pit is regarded as a sacrificial pit in which

specially selected items were deposited. It is noteworthy that the sacrificial pit at Strøby Toftegård, like the sacrificial well at Tissø, is located outwith the area with the great longhouses and halls. In this light, rituals linked to deposits in sacrificial wells or pits should perhaps be understood as offerings that were not exclusively linked to the magnate but could also be carried out by other inhabitants of the settlement.

A13155

Horizontally, prior to excavation, the pit A13155 was visible as a rounded feature with a diameter of 237 cm. The section drawing shows that the pit becomes narrower and that it is 131 cm deep (see Fig. 4.15). As with A12620, there are several thin layers at the bottom of the pit and a couple of more homogenous fill layers at the top. The number of objects found in the pit is relatively large and comprises some iron objects, among these two arrowheads (Baastrup, Chapter 7, cat.nos 285 and 293), a knife (Kildetoft Schultz, Chapter 8, cat.no. 431), a flap for a casket (Kildetoft Schultz, Chapter 8, cat.no. 501), and a hook (Kildetoft Schultz, Chapter 8, cat. no. 502, possibly also a kind of fastening). Furthermore, a greenish sherd of glass (Sode, Chapter 11, x931), a bronze pin (Baastrup, Chapter 7, cat.no. 122), a bone stiletto (Kildetoft Schultz, Chapter 8, cat.no. 696) and some faunal material and pottery, among these a single sherd of Baltic Ware. The faunal material also includes parts of a horse skull and antler from a roe deer. As with A12620, A13155 is located outside Farm 1 (Fig. 4.16).

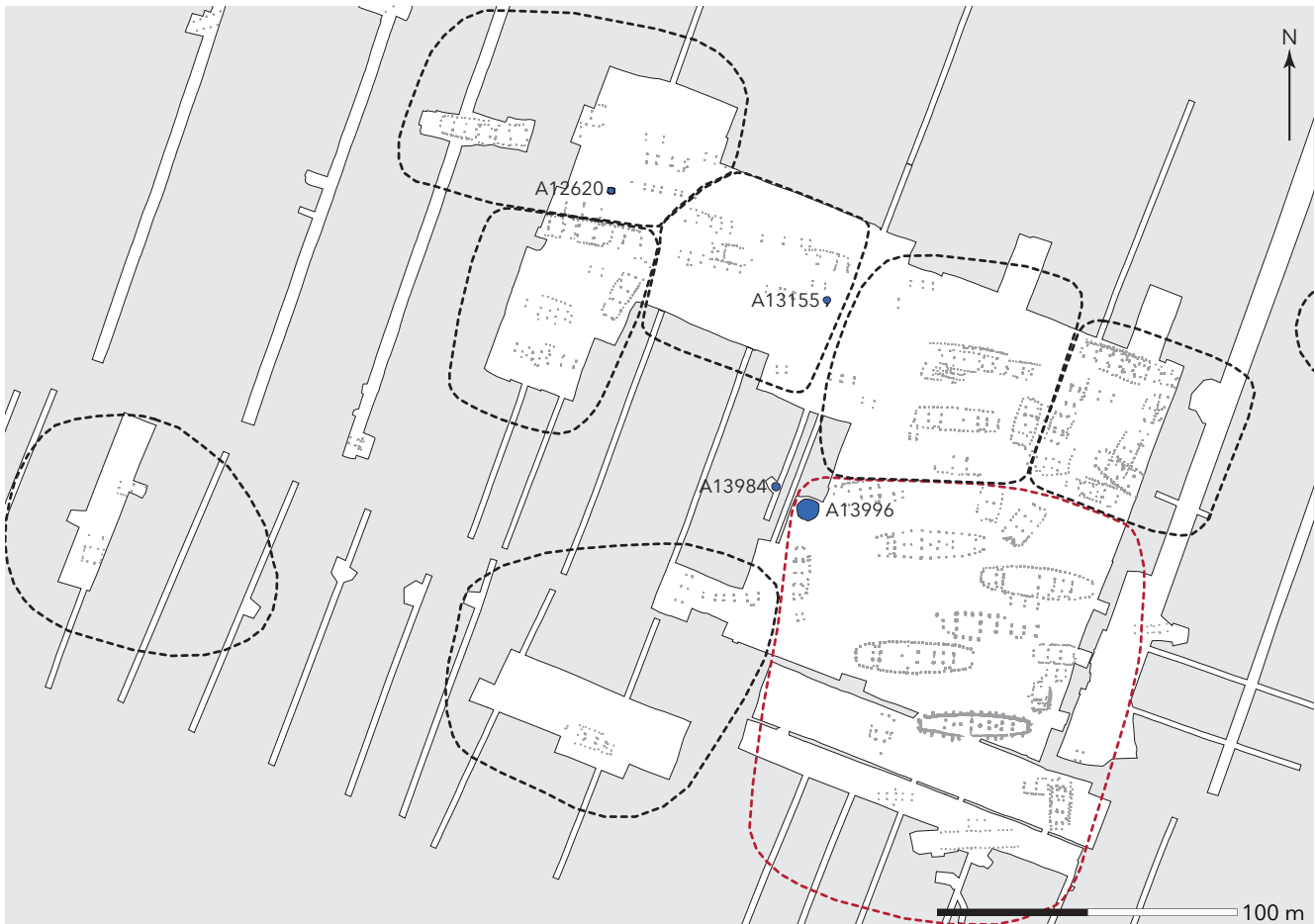


Fig. 4.16. Location of pits A12620, A13155 and the two wells A13948 and A13996 where fragments of horse skulls were found. A12620 also yielded a fragment of a human skull. The pits are located outwith Farm 1, while the wells are located on the outskirts of Farm 1 (red dotted line). Illustration: Museum Southeast Denmark.

A31003 – latrine

In 2013, a slightly oval feature (A31003) with two nearby postholes to the north and south was uncovered in the south-western part of the excavated area. A quarter of this pit has been excavated, and the excavation was done so that one of the two postholes (A31004) is visible in the section. The pit measures 353×290 cm horizontally and is 212 cm deep, gradually narrowing further down. The posthole A31004 is just short of 20 cm deep and 60 cm in diameter. The sequence of layers in the feature is very complex and represents several actions, with the uppermost one looking like material thrown into the pit. Some of the layers seem to have a high content of either charcoal or burnt clay and ash. Along the sides of the pit, there was a thin blackish-grey layer of sandy clay with flecks of charcoal (Fig. 4.17). Analysis of pollen and macro fossils from this layer renders it likely that this is a latrine (see Henriksen & Mortensen, Chapter 5). Over the thin, collapsed layer of faeces is a layer of almost pure clay subsoil, which is

interpreted as a layer that was added when the latrine fell out of use.

The latrine was probably roofed over since the quantity of airborne pollen is very small (see Henriksen & Mortensen, Chapter 5). The two posts on either side of the pit may thus have been part of the structure covering the latrine (Fig. 4.18). The layer of ash and the layer of red-burnt clay may be the result of the latrine building having burnt down at some point, and the ruined wattle-and-daub walls were then shoved into the pit.

Some bones and pottery, as well as a possible fragment of an iron key (Kildetoft Schultz, Chapter 8, cat.no. 417), were found in the feature. A charred cereal grain from the faeces layer has been dated to the Viking Age, Cal. AD 775–970, 2σ (Beta 433177, 1130 ± 30 BP).

The latrine is located about 100 m west of Farm 1 with the great longhouses, in an area that has been subjected to trial excavations, but no large surface area has been excavated. Nearby features revealed by the trial trench are

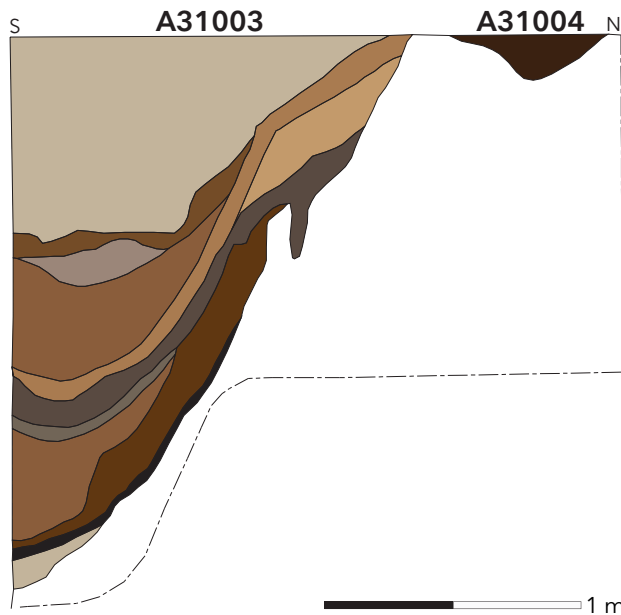


Fig. 4.17. Section drawing of latrine A31003. The bottommost layer (black) of the pit is interpreted as a layer of faeces that is likely to stem from humans. The layer is only about 5 cm thick, but it was probably around 80 cm when a thick layer of almost pure clay was placed on top of it. The faeces layer has subsequently composted and sunk. Illustration: Museum Southeast Denmark.

mainly pits and scattered postholes, but they are not part of any recognised structures (Fig. 4.19).

A12700, A12367, A30939 and A30634: pits, wells or latrines?

Archaeologically excavated latrines are known in the Danish area primarily from the Middle Ages and onwards (Keyes 2016), and this is the first time that a Viking Age latrine has been registered outwith urban settlement. The latrine could not be identified as such during the excavation, but only in subsequent studies of macro fossils, pollen and entomology. It raises the question of whether this is a unique case or an overlooked type of feature. The faeces layer was apparent during the excavations as just a c. 5-cm-thick stripe of blackish-grey sandy clay with flecks of charcoal along the sides and bottom of the pit, and it would not have been possible without scientific analysis to identify the feature as a latrine. Whether other of the deep pits on the site had the same function cannot be determined without new investigations. There are, however, some deep pits that show similarities to A31003.

A12367

A12367, which is only described in a notebook, shows similarities to A31003, as the pit is described as a shaft-like dug hole, which near the bottom is filled with primarily yellowish-brown clay with a thin, dark outermost layer. This description recalls the faeces layer (a thin, dark outermost

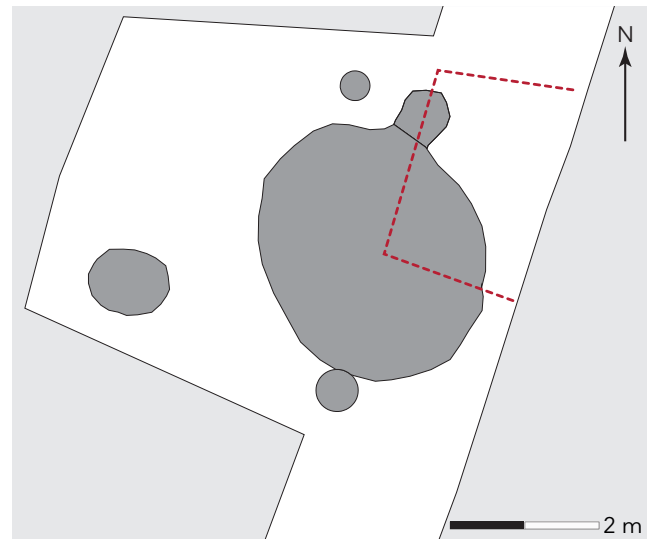


Fig. 4.18. A31003, surface with cross-sections shown (red line). On either side of the pit is a posthole, and this is interpreted to the effect that there was a structure covering the latrine. Illustration: Museum Southeast Denmark.

layer) and the sealing (the layer of clay) in the latrine A31003. This feature, which was originally interpreted as a well, is located in the north-western part of the settlement area, at Farm 5, and it cannot have been in place at the same time as House 50, since the pit is placed in the southern wall of the house. Whether the house is earlier or later than A12367 cannot be determined, as the southern house wall is somewhat sporadically preserved. Only four bones were found in the pit, which cannot with certainty be dated to the period when the magnate farm was in use. No postholes were found that might stem from a structure covering A12367.

A12700

Pit A12700 was an oval feature of about 170 cm × 130 cm with a relatively simple sequence of just a few layers. The bottom part of the pit was not included in drawings due to water seeping into the excavated part. The pit is wide at the top (the topmost c. 55 cm) but narrows significantly further down. The topmost layers consist of waste containing some red-burnt clay. Under this is a layer of grey or brownish-grey silty and clayey homogenous topsoil, which likely represents a period when the pit was open before it was filled with waste consisting of, *inter alia*, red-burnt clay. Under the layer of silt is a layer of yellowish, light grey-brown clayey topsoil. The layer tapers quite a lot towards the bottom, which is not visible in the drawing due to the water in the excavated part at the time when the drawing was made (Fig. 4.20). The feature is described as a pit and no water-deposited layers were registered, but the water seeping into the excavated part may suggest that this could be a well. Another possible, albeit not documented, function of the pit could be that

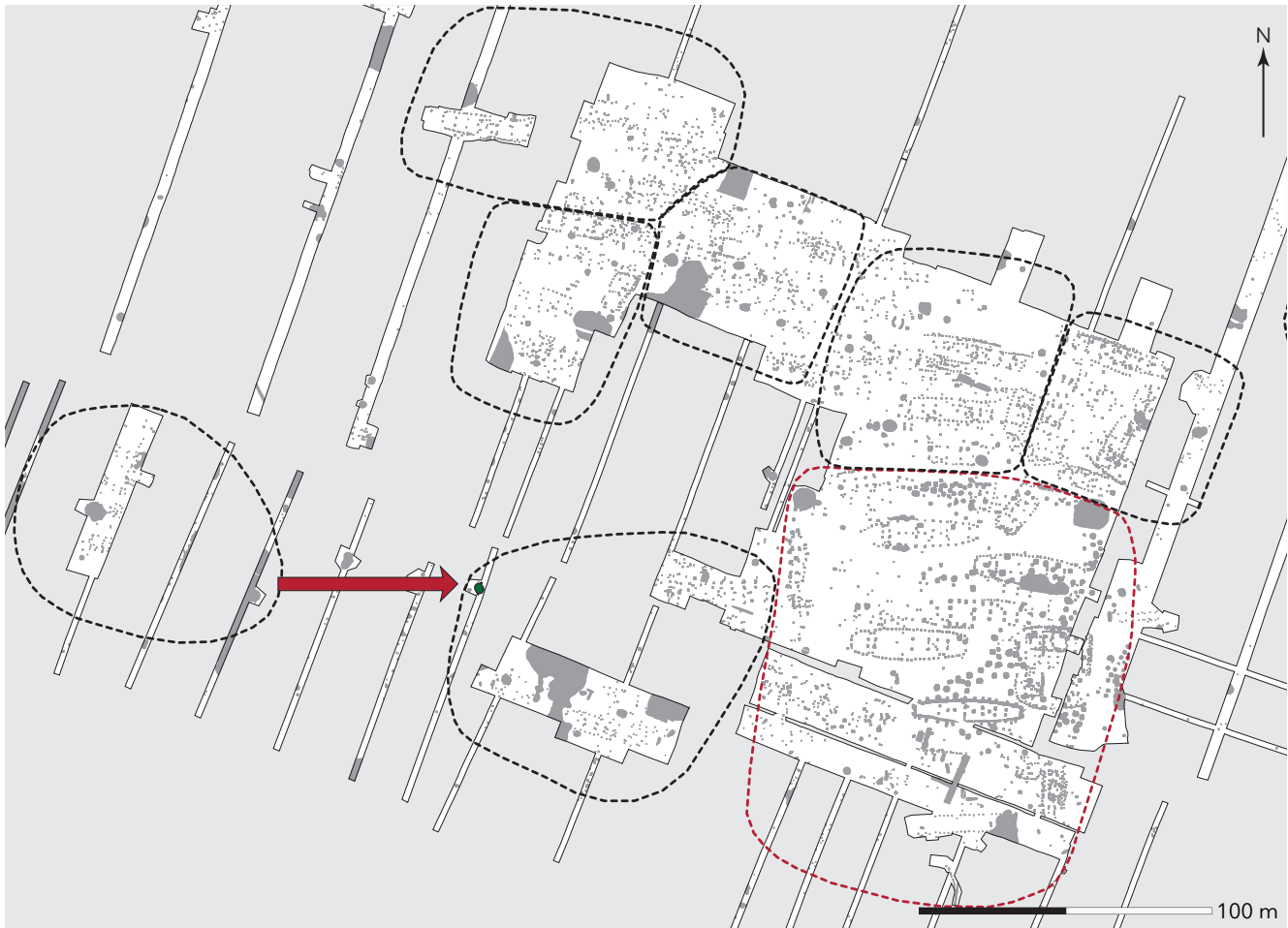


Fig. 4.19. The latrine A31003 was found in a trial trench in an area where mainly pits were found (indicated with an arrow). Not much of the area surrounding the latrine has been uncovered, and so the understanding of what activities went on in the area is limited. Illustration: Museum Southeast Denmark.

it was a latrine. The shape of the pit and to some extent also its fill layers resemble A31003, although no thin, dark faeces layer was noted. This, however, may be because the pit drew water and so the bottommost layers were neither recognised nor drawn. Objects found in A12700 comprise pottery, including one sherd of Baltic ware, a glass bead, a comb tooth, bone and burnt clay.

A30634

Pit A30634 also has similarities to A31003 and was visible horizontally prior to excavation as a slightly oval feature (288 × 340 cm), which was surrounded by eight small postholes (Fig. 4.21). Initially, the pit was therefore interpreted as a pit house, but when excavated, it turned out to be a 124 cm deep pit with a relatively simple sequence of layers with a c. 20-cm-thick layer of charcoal at the bottom and on top of this a heterogeneous fill. The pit has uneven sides and tapers slightly towards

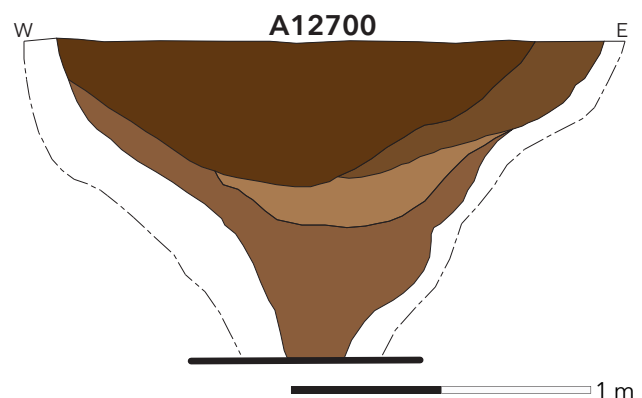


Fig. 4.20. Section of A12700, pit, well or perhaps latrine? The feature has not been fully excavated, probably due to water seepage. The feature is described as a pit, but its shape may resemble the latrine A31003 or alternatively it could be a well, cf. the water seeping in. Illustration: Museum Southeast Denmark.

the bottom. The sequence of layers may suggest that the pit was re-dug and may have had a flatter bottom in its first phase (Fig. 4.22). A quarter of the pit has been excavated and the fill has been sieved.

The objects found comprise a glass bead (Sode, Chapter 10, x1179), fragments of a bone comb (Kildetoft Schultz, Chapter 8, cat.no. 687) and an iron knife (Kildetoft Schultz, Chapter 8, cat.no. 443), as well as faunal material and pottery. Soil samples were taken from the layers within the pit and these have been analysed by Peter Steen Henriksen and Morten F. Mortensen. Apart from a few cereal grains and seeds from weed plants, the samples contained white slags, which are only produced at very high firing temperatures (Henriksen & Mortensen, Chapter 5). The function of the pit cannot be determined on the basis of the macro-fossil analyses. The surrounding postholes may suggest that the pit was roofed over, but only one of the postholes has been excavated (A31066).

A30939

This is, horizontally speaking, a round feature with a diameter of 4 m. The feature tapers rapidly and was 192 cm deep in total. The pit is located in a hollow and its deepest layers are described as dark layers of greyish-brown sand with horizontal stripes, and this may thus be a well with water-deposited layers, although no traces of lining were found (Fig. 4.23). Only few finds were made in the pit, among these a knife (Kildetoft Schultz, Chapter 8, cat.no. 444) and a bit of pottery. Soil samples were taken from four layers in the pit, but unfortunately only a few charred seeds and a bit of charcoal were found, neither of which shed any light on the function of the pit (see Henriksen & Mortensen, Chapter 5).

Around the pit, several postholes became visible when the topsoil was removed. Unfortunately, the postholes were so poorly preserved that, although they were clearly visible horizontally, they could not be recognised in the section.



Fig. 4.21. The location of A30634 on the site, and the feature with surrounding postholes. Illustration: Museum Southeast Denmark.

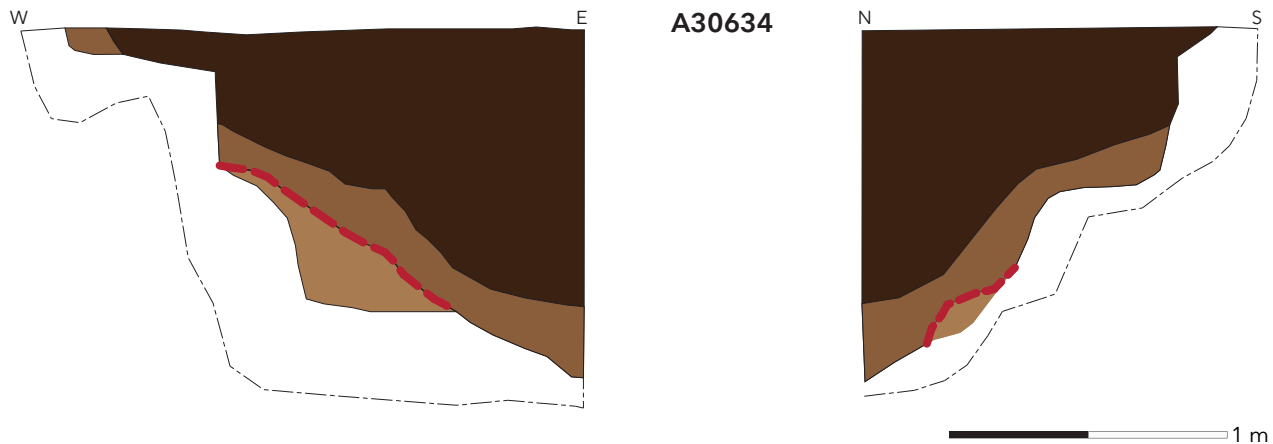


Fig. 4.22. Section drawing of A30634 suggests that the pit may have been re-dug and that it originally had a flatter bottom (under the dotted red line). Illustration: Museum Southeast Denmark.

These pits are discussed here because postholes were found around the pits in the cases of A30364, A30939 and A31003. A31003 is in all likelihood a latrine, while the functions of the other two cannot be determined.

More focus on scientific samples from the layers within these pits and their surrounding features may be able in connection with future excavations to expand our knowledge of how the pits were used.

Cultural layers

In connection with the excavations at Strøby Toftegård, remains of cultural layers were noted in several places across the site (A10031, A10034, A10059, A10116, A12570, A13223, A30608, A31093, Fig. 4.24). The cultural layers have been searched using metal detectors, and in A12570 and A13223, selected square-metre sections were sieved. In some cases, the better-preserved cultural layers contained large numbers of burnt stones (Tornbjerg 2000).

Within Farm 1 lies the cultural layer A10116, which according to the reports overlaps House 1 and is thus stratigraphically younger than it (Woller 1998, 87). In this cultural layer were found an arrowhead (Baastrup, Chapter 7, cat. no. 264), a knife (Kildetoft Schultz, Chapter 8, cat.no. 424) and a chain link (Kildetoft Schultz, Chapter 8, cat.no. 513), as well as a bit of bone. The cultural layers A10034 and A10059 are placed on either side of House 3 in its western part. The postholes of House 3 have been dug through the cultural layer, which is, however, only about 20 cm thick in the places where it is best preserved. Some objects were found in A10059, among these a fragment of a comb (cat. no. 684), a fragment of a whetstone (Kildetoft Schultz, Chapter 8, cat.no. 743), a sherd of glass (Sode, Chapter 11, x359), pottery and some bones, including fishbones.

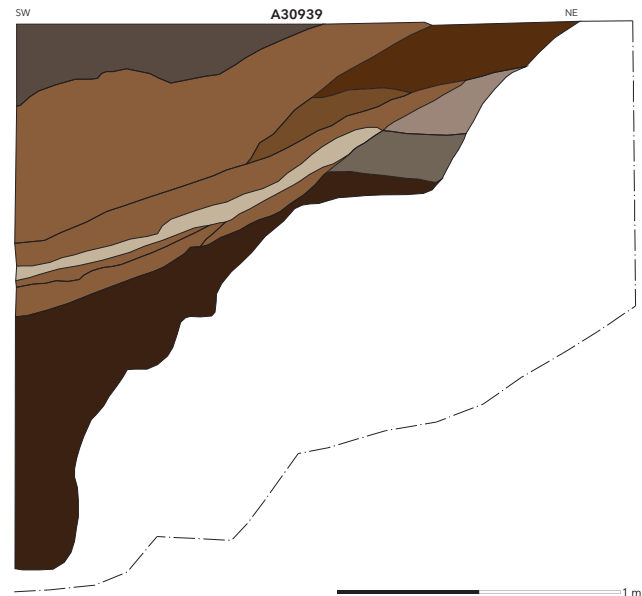


Fig. 4.23. Section drawing of A30939. A deep feature, located in the south-west part of the settlement, whose function is as yet unclear. Illustration: Museum Southeast Denmark.

Outwith Farm 1, the cultural layers rarely contained very many items, except for the cultural layer A12570, which is located within Farm 4 in the north-western part of the excavated area (Fig. 4.25). The cultural layer has not been fully uncovered, and only the northern part has been excavated. The cultural layer overlaps the wells A12832 and A12833, both of which have been excavated, but no drawings were made. On the basis of contour measurements, the thickness of the cultural layer is assumed to be around 15 cm. Of this, 11 m² were sieved. The finds



Fig. 4.24. Map of cultural layers (yellow) on the site. Illustration: Museum Southeast Denmark.

from cultural layer A12570 comprises, in addition to animal bones and pottery, two iron bars (Kildetoft Schultz, Chapter 8, cat.nos 477, 478), three iron knives (Kildetoft Schultz, Chapter 8, cat.nos 433, 452, 466), a fragmented copper-alloy key (Kildetoft Schultz, Chapter 8, cat.no. 413), a bronze rod (cat.no. 224), an equal-armed brooch (Baastrup, Chapter 7, cat.no. 54), fragment of a tin-coated oval plate brooch (Baastrup, Chapter 7, cat.no. 36), and half a glass bead (Sode, Chapter 10, x927). Alongside this were also several iron objects, such as a handle or hook, iron rings and nails, fittings (Kildetoft Schultz, Chapter 8, cat.nos 504, 517, 518, 559, 565).

In the cultural layer A13223, selected square-metre sections were also sieved. Items found here comprise a fragment of an arrowhead (Baastrup, Chapter 7, cat.no. 286), a fragmented knife (Kildetoft Schultz, Chapter 8, cat.no. 430), an iron nail (Kildetoft Schultz, Chapter 8, cat.no. 564) and a bent piece of iron (Kildetoft Schultz, Chapter 8, cat.no. 657), as well as a few hooks and pottery sherds (Kildetoft Schultz, Chapter 8, x13223).

Pits, wells and cultural layers at Strøby Toftegård

Pits rarely make their way into publications, although they are a frequently occurring type of feature. This makes it difficult to compare the pits at Strøby Toftegård with other sites. Both older and more recent publications of large Viking Age complexes, such as Bejsebakken (Sarauw 2019) and Lejre (Christensen 2015), do not at all mention pits, while pits are only very briefly described in other publications, such as Østergård (Sørensen 2011) and Vester Egesborg (Ulriksen 2018).

The reason why pits slip away into the background may be that this is a heterogeneous type of feature, and also that their original functions can be difficult to determine. The pits at Strøby Toftegård vary in terms of depth, diameter and number of layers in the fill. Many layers indicate several actions, perhaps carried out over an extended period of time. Some pits were presumably dug in order to provide clay for both wattle-and-daub structures and the production of pottery. Others played a role as earth ovens, like the ones found at Strøby Toftegård. The excavations of Strøby

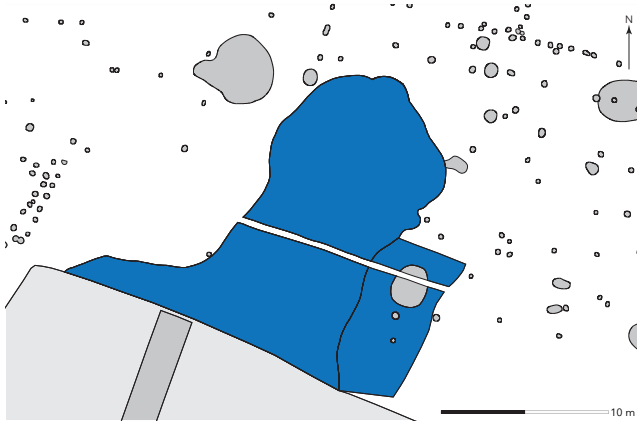


Fig. 4.25. The cultural layer A12570, which overlaps the two wells A12832 and 12833, contained a number of objects. Illustration: Museum Southeast Denmark.

Toftegård show that, in some cases and with the help of scientific analyses, it is possible to attain a better understanding of the function of individual pits, most explicitly in the interpretation of A31005 as a latrine, where science and archaeology combined to solve the riddle about its original function. Perhaps a practice involving routine sampling from pits and postholes may in the future help to identify the original functions of pits.

Future potential of the wells and pits at Strøby Toftegård

This survey of wells and pits at Strøby Toftegård has raised a number of questions that are not easily answered on the basis of the material, such as it appears today. For example, the questions raised by pit A12620, which contained a fragment of a human skull. Is this a sacrificial pit or did the skull fragment end up in the pit by accident? A reopening focusing on this might provide an answer. A re-excavation and completion of the excavation of the wells A13984 and A13996 at Farm 1 might be able to provide new information about the activities that went on at the magnate farm. They were the only wells on the site to contain wood and were thus not fully excavated. Pieces of horse skulls were found in both wells. At other Viking Age sites, this is interpreted as offerings.

Finally, the latest excavation showed that there was at least one latrine on the site. It should therefore be considered whether this is a common type of feature that is simply overlooked because it does not really stand out from other pits or wells in terms of shape or sequences of layers. In, for instance, A12367, a thin, dark layer at the bottom could be a layer of faeces, and samples subjected to scientific analyses may clarify whether this is a latrine.

Targeted re-excavations of pits and wells with the aim of answering focused questions may provide better insights into everyday life and possible sacrifices made in pits and wells.

Note

- 1 For detailed information regarding radiocarbon dates, see Beck & Kildetoft Schultz, Chapter 2, Table 2.1.

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Analyses of macrofossils and pollen from Strøby Toftegård

Peter Steen Henriksen & Morten Fischer Mortensen

Abstract

During 2013, excavations were carried out of a magnate's residence with associated farm units from the Germanic Iron Age and the Viking Age at Strøby Toftegård. Several samples were taken for scientific analysis from various houses and pits. Macrofossils from nine houses and 35 pits were examined. Two pits were additionally analysed for pollen. The analyses show that the dominant crops were barley and rye, but there was also a sizeable proportion of wheat. This combination is comparable to what is known from contemporary elite residences as Tissø in western Zealand and Erritsø in eastern Jutland. Two of the pits stand out in that they contain layers of faeces. One pit was from a presumably covered latrine that contained remains of what is interpreted as honey along with mineralised seeds, fly puparia and fish bones. The other pit contained animal dung, as well as waste from blacksmithing and jewellery production.

Keywords: Macrofossil analysis, pollen analysis, Germanic Iron Age, Viking Age, crops, latrine

Analyses

In connection with the excavations of a large settlement area with a magnate farm and several farm units from the Germanic Iron Age and the Viking Age at Strøby Toftegård in south-eastern Zealand, a range of samples for macrofossil analysis were taken from houses and pits. Subsequently, 114 samples were analysed at the department of Environmental Archaeology and Material Science at the National Museum of Denmark with the aim to describe the agrarian economy and the functions of the features on the site. After flotation, the samples were studied using a stereo microscope and grains, seeds, fragments of straw and other identifiable objects were identified using recent reference material. In several samples, the preservation conditions were poor, and many cereal grains could only be identified as 'cereal *sp.*' Likewise, some weed seeds could only be identified to family, not species.

From two samples taken from the bottom layers of the pits A30565 and A31003, interpreted as latrine material, pollen analyses were also conducted, since pollen greatly supplements the macrofossil analysis in such deposits (Hald

et al. 2018; 2020). The sediments were prepared in accordance with standard procedures, including KOH, HCl, HF and acetolysis (Fægri & Iversen 1989). For determining pollen types, Fægri & Iversen (1989) was used, together with the pollen reference collection at the National Museum. The best-preserved pollen grains came out of A31003, where around 96% out of 1150 pollen grains could be classified. The poorest preserved pollen came from A30565, where *c.* 83% could be classified and the pollen concentration was, moreover, very low so that only 273 pollen grains were analysed.

The results of the macrofossil and pollen analyses are found in Catalogues 1–4.

Houses

The analysis results from houses are presented in chronological order, so far as this is possible. The results of the macrofossil analyses from the houses are shown in Table 5.1.

Table 5.1. The results of the macrofossil analyses of samples from houses.

			House 1	House 2	House 3	House K215	House K216	House K312	House K314	House K319	Pit house K302
<i>Cultivated plants</i>											
<i>Hordeum vulgare</i> var. <i>vulgare</i>	Hulled Six-row Barley	Avnklædt Seksradet Byg	1	5	–	2	2	6	25	12	0
<i>Hordeum vulgare</i>	Barley	Seksradet Byg	10	25	5	1	4	9	197	71	9
<i>Secale cereale</i>	Rye	Rug	2	3	–	–	1	–	24	12	2
<i>Triticum aestivum</i>	Bread Wheat	Almindelig Hvede	1	1	–	–	–	–	6	2	1
<i>Triticum</i> sp.	Wheats	Hvede	–	–	–	–	–	2	–	–	–
<i>Avena</i> sp.	Oats	Havre sp	2	1	–	–	–	–	–	–	–
Cerealia	Cereals	Korn	11	15	1	1	1	17	142	79	23
Cerealia	Cereals, fragments	Korn-fragmenter	3	31	8	11	7	11	323	140	4
<i>Hordeum vulgare</i>	Barley, rachis segment	Seksradet Byg, aksled	–	–	–	–	–	–	6	–	–
<i>Secale cereale</i>	Rye, rachis segment	Rug, aksled	–	–	–	–	–	–	2	1	–
<i>Hordeum/Secale</i>	Barley/Rye, rachis segment	Byg/Rug, aksled	2	–	–	–	–	–	–	–	–
Cerealia	Cereals, rachis segment	Korn, aksled	–	–	–	–	–	–	1	–	–
<i>Linum</i> <i>usitatissimum</i>	Flax	Almindelig Hør	–	–	–	–	–	–	1	–	–
<i>Field weeds/ruderal plants</i>											
<i>Agrostemma</i> <i>githago</i>	Corncockle	Klinte	–	–	–	–	–	–	6	2	–
<i>Bromus/Avena</i> sp.	Bromes/Oats	Hejre/Havre	–	–	–	–	1	–	2	1	–
<i>Chenopodium</i> <i>album</i>	Fat Hen	Hvidmelet Gåsefod	–	4	–	–	–	1	3	11	1
<i>Danthonia</i> <i>decumbens</i>	Heath-grass	Tandbælg	–	–	–	–	–	–	–	1	–
<i>Fallopia</i> <i>convolvulus</i>	Black-bindweed	Snerle-Pileurt	–	1	–	–	–	2	2	–	–
<i>Galium spurium/</i> <i>aparine</i>	False Cleavers/ Cleavers	Hør-/ Burre-Snerre	–	11	3	1	2	–	7	7	2
<i>Persicaria</i> <i>maculosa/</i> <i>lapathifolium</i> s.l.	Redshank/Pale Persicaria	Fersken/Bleg/ Knudet Pileurt	1	1	–	–	–	2	13	4	1
<i>Plantago</i> <i>lanceolata</i>	Ribwort Plantain	Lancet-Vejbred	–	–	–	–	1	–	–	–	1
<i>Poa annua</i>	Annual Meadow-grass	Enårig Rapgræs	–	–	–	–	–	2	–	–	–
<i>Rumex acetosella</i>	Sheep's Sorrel	Rødknæ	1	–	–	–	–	–	–	1	–
<i>Spergula arvensis</i>	Corn Spurrey	Almindelig Spergel	–	–	–	–	–	–	–	–	2

(Continued)

Table 5.1. (Continued)

			House 1	House 2	House 3	House K215	House K216	House K312	House K314	House K319	Pit house K302
<i>Stellaria media</i>	Lesser Stitchwort	Almindelig Fuglegræs	–	–	4	–	–	–	4	1	–
<i>Thlaspi arvense</i>	Field Penny-cress	Almindelig Pengeurt	–	–	–	–	–	–	1	–	–
<i>Vicia hirsuta</i>	Hairy Tare	Tofrøet Vikke	–	–	–	–	–	–	3	–	–
<i>Vicia tetrasperma</i>	Smooth Tare	Tadder-Vikke	–	–	–	–	–	3	–	–	–
<i>Collected food plants</i>											
<i>Corylus avellana</i>	Hazel, shell fragments	Hassel, skal-fragm.	–	–	–	–	1	–	1	–	–
<i>Sambucus nigra</i>	Elder	Almindelig Hyld	–	1	–	–	–	–	–	–	–
<i>Dryland plants</i>											
<i>Trifolium pratense</i>	Red Clover	Rød-Kløver	–	–	–	–	–	–	1	–	–
<i>Trifolium repens</i>	White Clover	Hvid-Kløver	–	–	–	–	–	2	1	–	–
<i>Variable ecology</i>											
<i>Brassica</i> sp.	Cabbages	Kål	–	–	–	–	–	–	–	1	–
Brassicaceae	Cabbages family	Korsblomst-fam.	–	–	–	–	–	–	1	–	1
<i>Bromus</i> sp.	Bromes	Hejre/Havre	–	–	–	–	–	–	–	–	1
<i>Carduus/Cirsium</i>	Thistles	Tidsel/ Bladhoved-Tidsel	–	–	–	–	–	–	1	–	–
<i>Carex</i> sp.	Sedges	Star	–	1	–	–	–	–	–	–	2
Caryophyllaceae	Pink family	Nellike-fam.	–	–	–	–	–	–	–	1	1
<i>Cerastium</i> sp.	Mouse-ears	Hønsetarm	–	–	–	1	–	–	1	–	–
<i>Chenopodium</i> sp.	Goosefoot	Gåsefod	1	3	1	2	1	1	17	8	–
Fabaceae	Pea family	Ærteblomst-fam.	–	2	–	–	–	1	2	–	–
<i>Lathyrus</i> sp.	Peas	Lathyrus	–	–	–	–	–	–	–	1	–
<i>Lathyrus/Vicia</i>	Peas/Vethes	Fladbælg/Vikke	–	–	–	–	–	–	–	1	–
<i>Luzula</i> sp.	Wood-rushes	Frytle	–	–	–	–	–	1	–	1	–
<i>Myosotis</i> sp.	Forget-me-nots	Forglemmigej	–	–	–	1	–	–	–	–	–
<i>Poa</i> sp.	Meadow-grasses	Rapgræs	–	–	–	–	–	–	–	1	–
Poaceae	Grass family	Græs-fam	3	–	–	–	1	4	8	8	4
<i>Rumex</i> sp.	Docks	Skræppe	–	1	–	–	–	3	2	1	–
<i>Trifolium</i> sp.	Clover	Kløver	–	–	–	–	–	2	1	–	–
<i>Vicia</i> sp.	Vethes	Vikke	1	7	–	–	–	–	1	–	–
	Unidentified seeds	Ubestemte frø	3	4	–	2	–	1	11	3	7
<i>Others</i>											
	Charred wood	Trækul	xxxx	xxxxx	xxxxx	xxx	xx	xx	xxxxx	xxx	xxxx
	Slags	Slagger	–	xx	xxx	–	–	–	xx	xxx	–
	Lime	Kalk	–	xx	–	–	–	–	–	–	–
	Roots	Roddele	–	–	–	–	–	1	–	–	–
	Buds	Knopper	–	1	–	–	–	–	–	–	1

(Continued)

Table 5.1. (Continued)

			House 1	House 2	House 3	House K215	House K216	House K312	House K314	House K319	Pit house K302
	Twigs	Kviste	–	–	–	–	1	1	–	–	–
	Straw fragments	Strå-fragmenter	–	–	–	–	–	2	–	–	–
	Bones	Knogler	4	71	10	–	–	–	–	–	4
	Bone fragments	Knoglefragmenter	15	24	20	11	10	–	–	–	7
	Fish bones	Fiske-knogler	–	8	10	–	1	–	1	–	–
	Fish scales	Fiske-skæl	–	7	–	–	–	–	–	–	–
<i>Spirorbis spirorbis</i>	Sinistral Spiral Tubeworm	Posthornsorm	–	1	–	–	–	–	–	–	–
<i>Fucus vesiculosus</i>	Bladderwrack, fragments	Blæretang, fragmenter	–	1	–	1	–	–	–	–	1

House K312

From House K312, dated to the Late Roman and the Early Germanic Iron Age transition (^{14}C (95%): cal AD 385–540, 2 samples), 28 samples from postholes belonging to wall posts have been analysed (see Beck & Kildetoft Schultz, Chapter 2, Table 2.1 regarding details on radiocarbon dates). The samples were practically empty, and only a few cereal grains and a bit of charcoal was found.

Just north of House K312 a concentration of postholes was found, which are dated to the Early Pre-Roman Iron Age (^{14}C (95%): cal 395–345/320–205 BC, 1 sample). Two samples from these postholes yielded a large number of grains from hulled six-row barley (*Hordeum vulgare* var. *vulgare*) and some charcoal. This represents threshed and cleaned grain that was probably charred in connection with a fire. However, none of the postholes could be ascribed to any recognised structures.

House K215

From House K215, eight samples taken from the postholes of roof-bearing posts were analysed. The samples contained charcoal in varying quantities and a few cereal grains. The cereal grains and the main bulk of the charcoal came from the eastern end of the house, which renders it likely that the inhabited section with a fireplace was located here, but the number of finds is so small that this remains uncertain. The house is interpreted as an earlier or later phase of House 216.

House K216

From House K216 (^{14}C (95%): cal AD 610–800, 3 samples), four samples from the postholes of roof-bearing posts were analysed. The samples contained a small amount of charcoal and a few grains of barley (*Hordeum* sp.) and rye (*Secale cereale*), as well as a fragment of a hazel-nutshell (*Corylus avellana*).

House K314

From House K314 (^{14}C (95%): cal AD 670–885, 2 samples), eight samples from postholes of roof-bearing posts were analysed. There were many cereal grains and a few seeds from field weeds, as well as charcoal, in the samples but with a concentration in the eastern end. The grains were mainly hulled six-row barley and rye as well as a few grains of common wheat (*Triticum aestivum*) and there was also a single seed of flax (*Linum usitatissimum*). The considerable presence of charcoal and charred plant remains together with white slags in the two postholes suggest that this house burnt down. Cereals and other plant remains that were charred in the fire are found where they had been stored prior to the fire, so the concentration of cereal in the eastern end of the house suggests that grain was stored and prepared here.

House K319

From House K319 (^{14}C (95%): cal AD 680–880, 1 sample), which overlaps with House K314, four samples from postholes of roof-bearing posts were analysed. The contents of the samples were similar to those from K314, with many cereal grains and a few seeds from field weeds as well as charcoal. The grain was dominated by hulled six-row barley and rye as well as a few grains of common wheat. The considerable presence of charcoal and charred plant remains together with many white slags in the samples may suggest that this house burnt down. The house is interpreted as an earlier or later phase of House K314.

G302

From the pit house G302, six samples from floor and fill layers as well as postholes were analysed. The sample from the fill contained cereal grains from barley, rye and common wheat, a few seeds from field weeds as well as some charcoal and a single fragment of charred

bladderwrack (*Fucus vesiculosus*). The remaining samples contained only a few cereal grains and a bit of charcoal, so they do not reveal anything specific about the function of the pit house. G302 is interpreted as belonging to the same farm unit as K314 and K319 and thus as contemporary with these.

House 1

From House 1 (^{14}C (95%): cal AD 656–778/791–827/840–863, 1 sample), six samples from the traces of three supporting posts in the south-eastern corner of the house were analysed. The samples contained mainly charcoal and a small number of charred cereal grains from hulled six-rowed barley, rye and common wheat.

House 3

From House 3 (^{14}C (95%): cal AD 664–891, 2 samples), three samples from the traces of a supporting post in the western end and one in the eastern end of the southern wall were analysed. The samples contained only a few cereal grains and bone fragments, but much charcoal. The sample from the southern wall also yielded many white glass-like slags that are formed at very high temperatures. This may suggest that the house burnt down or that an oven or forge was located in this area.

House 2

From House 2 (^{14}C (95%): cal AD 680–782/786–1052/1080–1152, 2 samples), eight samples from the traces of two supporting posts in the northern wall and six in the southern wall were analysed. The samples contained mainly charcoal and many small bones and bone fragments, alongside a small number of charred grains from hulled six-row barley, rye and common wheat. The grains were found evenly across the house. The sample from the doorpost in the eastern end of the southern wall threw up several fragments of burnt lime with embedded charcoal. These may represent the remains of a lime kiln, as is also known from the contemporary elite sites at Tissø (Henriksen & Holst 2015) and Jelling (Holst & Henriksen 2024). The same sample moreover yielded fishbones and scales, a fragment of bladderwrack and the shell from a sinistral spiral tubeworm (*Spirorbis spirorbis*), a small animal that lives attached to seaweeds.

Pits

Macrofossils from several pits were analysed. Only three of these pits, A30565, A30634 and A31003, have been ^{14}C -dated. The dating of the remaining pits is based on the context in which they occur. In the cases where the context is unknown, the pits are still interpreted as belonging to the settlement and are therefore also dated broadly to the Germanic Iron Age. The results of the macrofossil analyses from the pits are shown in Tables 5.2 and 5.3.

A20394

From this pit, samples from a layer of ash covering a charcoal layer in the middle of the pit were analysed. The sample contained only a few seeds, but many charred twigs and fragments of straw as well as bone fragments.

A30565

From this feature, which is described as a possible well, seven samples were analysed. The samples from the two top layers, which represent most of the fill, yielded only a limited amount of charcoal and a few bone fragments. Layers 3 and 4 in the lower part of the pit, ^{14}C dated to the Later Germanic



Fig. 5.1. Mineralised seeds of mustard (*Sinapis*) or kale (*Brassica*) from pit A30565. Photo: P. S. Henriksen, National Museum of Denmark.

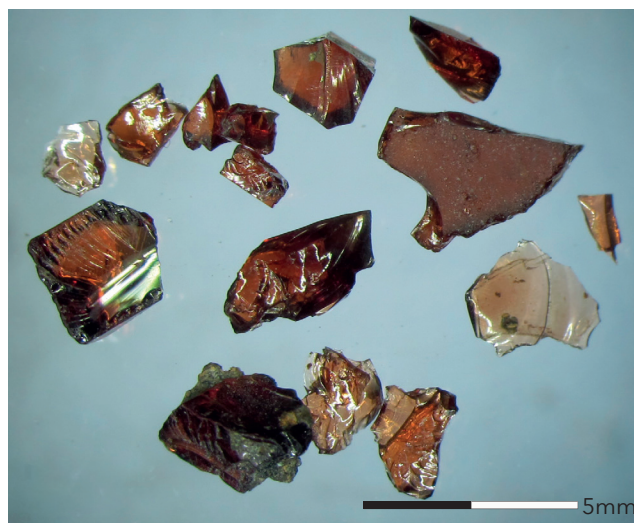


Fig. 5.2. Fragments of garnets found in pit A30565. Photo: P. S. Henriksen, National Museum of Denmark.

Table 5.2. The results of the macrofossil analyses of samples from pits.

			Pits					Cooking pits								
			A30611		A30634		A30939			A20403	A20435	A30542				
English common name	Danish common name	A20394 layer 8	layer 6	layer 7	layer 1	layer 1	layer 1	layer 1	layer 1	layer 1	layer 2	layer 1				
		P48	P147	P148	P149	P150	P151	P152	P153	P182	P183	P184	P185	P50	P66	P127
Cultivated plants																
<i>Hordeum vulgare</i> var. <i>vulgare</i>	Hulled 6-row barley	–	1	–	–	–	1	–	2	–	–	–	–	–	–	–
<i>Hordeum vulgare</i>	Barley	–	4	–	–	–	2	–	–	1	–	–	–	1	3	–
<i>Secale cereale</i>	Rye	–	2	–	–	1	2	2	–	–	1	–	–	1	–	1
<i>Triticum aestivum</i>	Bread wheat	–	3	–	–	–	–	1	–	–	–	–	–	–	–	3
<i>Avena</i> sp.	Oats	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
<i>Cerealia</i>	Cereals	–	3	1	–	4	–	6	–	–	–	–	–	11	–	–
<i>Cerealia</i>	Cereals, frags	1	4	1	6	6	6	3	4	5	–	–	5	8	4	3
<i>Hordeum vulgare</i>	Barley, rachis seg.	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–
<i>Linum usitatissimum</i>	Flax	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–
Field weeds/ruderal plants																
<i>Agrostemma githago</i>	Corncockle	1	–	–	–	–	–	–	–	–	–	–	–	–	–	2
<i>Chenopodium album</i>	Fat hen	9	2	–	–	2	–	2	3	–	–	–	–	–	–	16
<i>Danthonia decumbens</i>	Heath-grass	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–
<i>Fallopia convolvulus</i>	Black-bindweed	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2
<i>Galium spurium/ aparine</i>	False cleavers/cleavers	2	–	1	–	1	2	1	1	–	–	–	1	2	–	2
<i>Lapsana communis</i>	Nipplewort	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–
<i>Malva</i> sp.	Mallows	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
<i>Persicaria maculosa/ lapathifolium</i> s.l.	Redshank/pale persicaria	–	2	–	–	–	–	2	1	–	–	–	–	–	–	1
<i>Plantago lanceolata</i>	Ribwort plantain	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–
<i>Poa annua</i>	Annual meadow-grass	–	–	–	–	–	–	1	–	–	–	–	–	–	–	40
<i>Polygonum aviculare</i>	Knotgrass	–	–	–	–	–	–	–	–	–	–	–	–	–	–	35

(Continued)

Table 5.2. (Continued)

	English common name	Danish common name	A20394 layer 8	A30598 layer 2	Pits						Cooking pits			
					A30611 layer 6	A30611 layer 7	A30634 layer 1	A30634 layer 1	A30634 layer 1	A30634 layer 3	A30939 layer 1	A30939 layer 2	A30939 layer 16	A30939 layer 16
			P48	P147	P148	P149	P150	P151	P152	P153	P182	P183	P184	P185
<i>Rumex acetosella</i>	Sheep's sorrel	Rødknæ	-	-	-	-	-	-	-	1	-	-	-	-
<i>Spergula arvensis</i>	Corn spurrey	Almindelig Spergel	-	-	-	-	-	-	-	-	-	-	-	-
<i>Stellaria media</i>	Lesser stitchwort	Almindelig Fuglegræs	-	-	2	-	-	1	-	-	-	-	-	-
<i>Collected food plants</i>														
<i>Sambucus nigra</i>	Elder	Almindelig Hyld	-	-	-	-	-	-	-	-	-	8	-	-
<i>Dryland plants</i>														
<i>Trifolium pratense</i>	Red clover	Rød-Kløver	1											
<i>Wetland plants</i>														
<i>Eleocharis palustris/ uniglumis</i>	Common/ slender spike-rush	Alm./Enskættet Sumpstrå	-	-	-	-	-	-	-	-	-	-	-	-
<i>Variable ecology</i>														
<i>Bromus</i> sp.	Bromes	Hejre/Havre	-	-	-	-	-	-	-	-	-	-	-	-
<i>Carex</i> sp.	Sedges	Star	2	-	-	-	1	-	-	-	-	-	-	-
<i>Chenopodium</i> sp.	Goosefoot	Gåsefod	7	3	-	-	-	4	2	2	-	-	-	1
Fabaceae	Pea family	Ærteblomst-fam.	-	-	-	-	-	-	-	-	-	-	-	-
<i>Poa</i> sp.	Meadow-grasses	Rapgræs	-	-	1	-	-	-	-	-	-	-	-	-
Poaceae	Grass family	Græs-fam	-	11	-	-	1	1	-	-	-	-	-	-
<i>Rumex</i> sp.	Docks	Skræppe	-	-	-	-	-	-	-	-	-	-	-	-
<i>Vicia</i> sp.	Vetches	Vikke	-	-	-	-	-	-	-	-	-	-	-	-
	Unident. seeds	Ubestemte frø	-	2	-	-	2	-	4	2	-	-	-	-
<i>Others</i>														
	Charred wood	Trækul	x	xxx	xx	xx	xxx	xxx	xxx	xxxxx	xx	x	x	x
	Slags	Slagger	-	-	-	-	-	-	xx	xx	-	-	-	-
	Spheroidal hammer scales	Smedekugler	-	-	-	-	-	-	-	-	-	-	-	-
	Roots	Roddele	-	1	-	-	-	-	-	-	-	-	-	-
	Buds	Knopper	2	-	-	-	-	-	-	-	-	-	4	-
	Twigs	Kviste	100	-	-	-	-	-	-	-	-	-	2	-
	Straw frags	Strå-fragmenter	500	1	-	-	-	-	-	-	-	-	-	-
	Bones	Knogler	-	1	-	2	-	-	-	-	-	-	-	-
	Bone frags	Knoglefragmenter	50	-	-	1	2	-	-	10	-	-	-	4

Table 5.3. The results of the macrofossil analyses of samples from pits containing faeces. Mineralised seeds are indicated in red.

	Common English name	Common Danish name	Well A30565										Well A31003									
			layer 1	layer 1	layer 2	layer 3	layer 4	layer 4	layer 4	layer 5	layer 5	layer 5	layer 1	layer 1	layer 5	layer 5	layer 5	layer 5	layer 5	layer 5	layer 16	layer 18
			P140	P141	P142	P143	P144	P145	P146	P146	P146	P146	P190	P190	P192	P193	P195	P195	P195	P196	P196	P197
<i>Cultivated plants</i>																						
<i>Hordeum vulgare</i> var. <i>vulgare</i>	Hulled 6-row barley	Avnklædt Seksrødt Byg	-	-	-	-	-	-	-	-	-	-	9	9	7	3	4	-	-	-	-	-
<i>H. vulgare</i>	Barley	Seksrødt Byg	-	-	1	-	2	-	-	-	-	-	16	16	63	19	-	9	-	1	-	1
<i>Secale cereale</i>	Rye	Rug	-	1	-	-	-	-	-	-	-	-	10	10	24	9	-	1	1	1	-	-
<i>Triticum aestivum</i> s.l.	Bread wheat	Almindelig Hvede	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-
<i>Triticum</i> sp.	Wheats	Hvede	-	-	-	-	-	-	-	-	-	-	2	2	-	-	-	-	-	-	-	1
<i>Avena</i> sp.	Oats	Havre sp	-	-	-	-	-	-	-	-	-	-	2	2	1	2	-	-	-	-	-	-
<i>Cereal</i>	Cereals	Korn	1	1	-	-	-	1	-	-	-	-	51	51	38	16	14	5	-	2	-	-
<i>Cereal</i>	Cereals, frags	Korn, frag.	-	-	-	-	-	-	-	-	-	-	25	25	200	55	8	13	7	2	-	-
<i>Hordeum vulgare</i>	Barley, rachis seg.	Seksrødt Byg, aksled	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	2	-	-	-	-
<i>Secale cereale</i>	Rye, rachis seg.	Rug, aksled	-	-	-	-	-	-	-	-	-	-	4	4	54	2	1	-	2	-	-	-
<i>Hordeum/Secale</i>	Barley/rye, rachis seg.	Byg/Rug, aksled	-	-	-	-	-	-	-	-	-	-	-	-	17	-	-	-	-	-	-	-
<i>Brassica</i> sp./ <i>Sinapis</i> sp.	Cabbages/mustard	Kål/Sennep	-	-	-	-	-	66	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Collected food plants</i>																						
<i>Rubus</i> sp.	Brambles	Klynger	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
<i>Field weeds/ruderal plants</i>																						
<i>Agrostemma githago</i>	Corncockle	Klinte	-	-	-	-	2	3	-	-	-	-	1	1	1	1	-	-	-	-	-	1
<i>Capsella bursa-pastoris</i>	Shepherd's-purse	Hyrdetaske	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
<i>Chenopodium album</i>	Fat hen	Hvidmelet Gåsefod	-	-	-	1	-	-	-	-	-	-	3	3	6	4	6	1	-	-	-	-
<i>Fallopia convolvulus</i>	Black-bindweed	Snerle-Pileurt	-	-	-	-	-	-	-	-	-	-	1	1	1	-	-	-	-	-	-	1

(Continued)

Table 5.3. (Continued)

		Well A30565													Well A31003												
Common English name	Common Danish name	layer 1	layer 1	layer 1	layer 1	layer 2	layer 2	layer 3	layer 3	layer 4	layer 4	layer 4	layer 5	layer 5	layer 5	layer 5	layer 5	layer 5	layer 5	layer 5	layer 5	layer 5	layer 5	layer 5	layer 5	layer 5	layer 5
<i>Galium aparine</i>	Cleavers	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Persicaria maculosa/lapathifolium</i> s.l.	Redshank/pale persicaria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Poa annua</i>	Annual meadow-grass	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Polygonum aviculare</i> s.l.	Knotgrass	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Rumex acetosella</i>	Sheep's sorrel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Solanum</i> sp.	Nightshades	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Spergula arvensis</i>	Corn spurrey	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Stellaria media</i>	Lesser Stitchwort	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Thlaspi arvense</i>	Field penny-cress	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Veronica arvensis</i>	Wall speedwell	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Vicia tetrasperma</i>	Smooth tare	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Viola arvensis/tricolor</i>	Field/wild pansy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dryland plants																											
<i>Galium boreale</i>	Northern bedstraw	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Luzula</i> sp.	Wood-rushes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Malva</i> sp.	Mallows	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Plantago lanceolata</i>	Ribwort plantain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Plantago major</i>	Greater plantain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

(Continued)

Table 5.3. The results of the macrofossil analyses of samples from pits containing faeces. Mineralised seeds are indicated in red. (Continued)

		Well A30565												Well A31003											
Common English name		layer 1	layer 1	layer 2	layer 3	layer 4	layer 4	layer 4	layer 5	layer 5	layer 5	layer 5	layer 5	layer 5	layer 5	layer 5	layer 5	layer 5	layer 5	layer 5	layer 5	layer 5	layer 5	layer 5	layer 5
Common Danish name		P140	P141	P142	P143	P144	P145	P146	P140	P141	P142	P143	P144	P145	P146	P140	P141	P142	P143	P145	P146	P146	P146	P146	P146
Common English name		layer 1	layer 1	layer 2	layer 3	layer 4	layer 4	layer 4	layer 5	layer 5	layer 5	layer 5	layer 5	layer 5	layer 5	layer 5	layer 5	layer 5	layer 5	layer 5	layer 5	layer 5	layer 5	layer 5	layer 5
<i>Wetland plants</i>																									
<i>Bolboschoenus maritimus</i>	Sea club-rush	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Eleocharis palustris/uniglumis</i>	Common/slender spike-rush	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Myriophyllum</i> sp.	Water milfoils	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Najas flexilis</i>	Slender naiad	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Variable ecology</i>																									
<i>Cerastium</i> sp.	Mouse-ears	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Chenopodium</i> sp.	Goosefoot	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Lamium</i> sp.	Dead-nettles	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Lathyrus</i> sp.	Peas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Mentha</i> sp.	Mints	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Myosotis</i> sp.	Forget-me-nots	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Poa</i> sp.	Meadow-grasses	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Poaceae</i>	Grass family	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Potentilla/Fragaria</i>	Cinquefoils/strawberries	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Rumex</i> spec.	Docks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Trifolium</i> spec.	Clovers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Vicia</i> spec.	Vetches	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Unident. seeds	1	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-
<i>Others</i>																									
Charred wood	Trækul	x	xx	x	xxx	xxx	xxxx	x	x	xx	x	xxx	xxx	xxxx	x	xxxx	xxx	xxxx	xxxx	x	xx	xx	xx	xxx	xxx

(Continued)

Table 5.3. (Continued)

		Well A30565												Well A31003											
Common English name	Common Danish name	layer	layer	layer	layer	layer	layer	layer	layer	layer	layer	layer	layer	layer	layer	layer	layer	layer	layer	layer	layer	layer	layer	layer	
		1	1	1	2	3	4	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
		P140	P141	P142	P143	P144	P145	P146	P190	P192	P193	P195	P198	P196	P191	P197	P199								
Burned clay lining	Brændt lerklining														xxx										
Hammer scales	Smedeskæl og -kugler	1				3	28					1													
Garnet frags	Granat, fragmenter						9																		
Straw frags	Halm-frag.			2						2															
Bone frags	Knoglefrag.	2	10	100	50	50	200						50	5		4	25								
Fish bones	Fiskeknogler				6	11																			
Fish scales	Fiskeskæl																								
Fly pupae	Fluepupper																								

Iron Age (^{14}C (95%): cal AD 660–770), yielded a few charred cereal grains and seeds, as well as some mineralised seeds. The majority of these could be specified as kale (*Brassica* sp.) or mustard (*Sinapis* sp.) (Fig. 5.1). Mineralised seeds, where the organic material has been replaced by calcium phosphate, occur most frequently in faeces layers (McCobb *et al.* 2001; Murphy 2014). The samples moreover contained much charcoal, many bone fragments and fishbones and, in layer 4, a lot of flakes and spheroidal hammer scales, as well as small fragments of raw garnet. It thus looks as if the bottom layers of the pit contain a mixture of household waste, faeces, blacksmithing waste and left overs from jewellery production. In the analysed subsample of 100 ml, at least 15 pieces of raw garnet were found (Fig. 5.2) and, since the layer consisted of many litres of soil, it may be presumed that the total number of garnet pieces is comparable to a find from Gamla Uppsala, where 600 small garnet fragments were found in a floor layer (Ljungkvist & Frölund 2015). The pit is interpreted as belonging to Farm 1.

Pollen analysis from layer 4 (see Table 5.4) showed that the sample contained mainly pollen from plants that grow in pasture lands, both pollen from grasses and sedges and pollen from flowers that do not spread by wind. This makes it likely that the faeces in the pit comes from grazing animals.

A30598

From this pit, a sample from the lower half was analysed. The sample contained grains from hulled barley, rye and common wheat, seeds from field weeds and some charcoal. The pit is not directly linked to any of the recognised farm units and thus cannot be dated more precisely than to the Late Iron Age.

A30611

From this pit, two samples from the lower layers were analysed. The sample practically only contained a bit of charcoal. The pit is interpreted as belonging to Farm 8, which places it in the Early Viking Age.

A30634

From this pit, which on the basis of a comb and a bead found here is dated to the Viking Age, four samples were analysed, three from the uppermost fill layer and one from the bottom layer. The three samples from the fill were all similar, containing a small number of cereal grains and seeds from field weeds as well as charcoal. The sample from the bottom had a high content of charcoal and also yielded white slags, indicating a very high firing temperature. Whether the firing took place in the pit or the slag and charcoal come from elsewhere cannot be determined from this analysis, but the pit is located fairly close to K314 and K319, which also yielded white slags, so there may be a link to this phase of the farm, which is dated to the Late Germanic Iron Age and the Early Viking Age.

Table 5.4. The results of the pollen analyses of samples from pits containing faeces.

	Common English name	Common Danish name	Well 31003, layer 26		Well 30565 layer 4	
			Pollen count	%	Pollen count	%
<i>Agrostemma githago</i>	Corncockle	Klinter	8	0.7	5	1.74
<i>Achillea</i> type	Yarrows type	Røllike-type	7	0.61	1	0.35
<i>Alnus</i>	Alder	El	–		5	1.74
Apiaceae	Carrot family	Skærmpantefamilien	79	6.87	1	0.35
<i>Artemisia</i>	Mugworts	Bynke	2	0.17	3	1.05
<i>Betula</i>	Birch	Birk	–		1	0.35
Brassicaceae	Cabbages family	Korsblomstfamilien	66	5.74	2	0.70
Caryophyllaceae	Pink family	Nellikefamilien	4	0.35	12	4.18
<i>Cerastium</i> type	Mouse-ears type	Hønsetarm-type	1	0.09	–	0.00
Chenopodiaceae	Goosefoot family	Salturtfamilien	11	0.96	3	1.05
<i>Cirsium</i> type	Thistle type	Tidse	3	0.26	–	0.00
<i>Corylus</i>	Hazel	Hassel	1	0.09	1	0.35
<i>Crepis</i> type	Hawk's-beards type	Høgeskæg-type	593	51.57	–	0.00
Cyperaceae	Sedge family	Halvgræsfamilien	9	0.78	29	10.10
Dryopteris	Buckler-ferns	Mangeløv	–		2	0.70
Fabaceae	Pea family	Ærteblomstfamilien	18	1.57	6	2.09
<i>Filipendula</i> sp.	Meadowsweets	Mjødurt	6	0.52	–	0.00
<i>Fraxinus</i>	Ash	Ask	1	0.09	–	0.00
<i>Galium</i>	Bedstraws	Snerre	3	0.26	5	1.74
<i>Gymnocarpium dryopteris</i>	Oak fern	Tredelt Egebregne	–		1	0.35
<i>Hippuris</i>	Mare's-tail	Vandspir	2	0.17	–	0.00
<i>Hordeum</i> type	Barley type	Byg-type	5	0.43	8	2.79
<i>Jasione</i>	Sheep's-bit	Blåmunke	1	0.09	–	0.00
<i>Lycopodium annotinum</i>	Interrupted clubmoss	Femradet Ulvefod	–		1	0.35
<i>Montia</i>	Blinks	Vandarve	1	0.09	–	0.00
<i>Ophioglossum vulgatum</i>	Adder's-tongue	Slangetunge	–		5	1.74
<i>Pimpinella saxifraga</i>	Burnet-saxifrage	Almindelig Pimpinelle	20	1.74	–	0.00
<i>Pinus</i>	Pine	Fyr	1	0.09	1	0.35
<i>Plantago lanceolata</i>	Ribwort plantain	Lancet-Vejbred	58	5.04	26	9.06
<i>Plantago media</i>	Hoary plantain	Dunet Vejbred	2	0.17	–	0.00
Poaceae	Grass family	Græsfamilien	41	3.57	65	22.65
<i>Polygonum aviculare</i>	Knotgrass	Vej-Pileurt	1	0.09	–	0.00
<i>Polygonum sect. Persicaria</i>	Knotweeds	Pileurt	1	0.09	–	0.00
<i>Pulsatilla</i>	Pasqueflowers	Købjælde	2	0.17	–	0.00
Roseaceae	Rose family	Rosenfamilien	–		1	0.35
<i>Ranunculus</i> sp.	Buttercups	Ranunkel	1	0.09	2	0.70
<i>Rhinanthus</i> type	Yellow-rattle type	Skjaller-type	3	0.26	–	0.00
<i>Rumex acetosella</i>	Sheep's sorrel	Rødknæ	1	0.09	–	0.00
<i>Saxifraga</i> sp.	Saxifrages	Stenbræk	–		–	0.00
<i>Salix</i>	Willows	Pil	5	0.43	3	1.05
<i>Senecio</i> type	Ragwort type	Brandbæger	85	7.39	7	2.44
<i>Solidago</i> type	Goldenrod type	Gyldenris	2	0.17	–	0.00

(Continued)

Table 5.4. (Continued)

	Common English name	Common Danish name	Well 31003, layer 26		Well 30565 layer 4	
			Pollen count	%	Pollen count	%
<i>Sphagnum</i>	Sphagnum moss	Tørvemos	4	0.35	3	1.05
<i>Succisa</i>	Devil's-bit scabious	Djævelsbid	54	4.70	5	1.74
<i>Taraxacum type</i>	Dandelion type	Mælkebøtte-type	–		19	6.62
<i>Tilia</i>	Lime	Lind	–		1	0.35
<i>Typha latifolia</i>	Bulrush	Bredbladet Dunhammer	1	0.09	–	0.00
Potamogeton	Pondweeds	Vandaks	–		1	0.35
Botryococcus	Green algae	Grønalge	–		3	1.05
	Unidentified	Ubestemt	47	4.09	59	20.56
Total			1150	100.00	287	100.00

A30939

From this feature, described as a possible well, four samples were taken from top to bottom. The samples, however, contained only a few charred grains and seeds and a bit of charcoal, which indicates little about the function of the feature. It is interpreted as belonging to Farm 7, which cannot be dated more specifically than to the Late Iron Age.

A31003

From this pit, which is very narrow and deep with many distinct layers, six samples from top to bottom were analysed (see Fig. 5.3). The samples from the uppermost layers contained some charcoal and charred grains of cereal as well as some bone fragments and fishbones. These layers must be interpreted as household waste and, in layer 4, also burnt clay or wattle-and-daub was found. Layer 26, dated to the early Viking Age (^{14}C (95%): cal AD 775–970), covered the bottom and went almost halfway up the sides. Alongside bone fragments, fishbones and charcoal, the layer contained a very large number of mineralised seeds and some fly puparia. This shows, as noted above, that there were likely faeces at the bottom of the pit and it is interpreted as a latrine. A thick layer (layer 18) that covers the bottom layer contained almost no macrofossils but is described as subsoil-like material. Together with the likewise subsoil-like layer 25, this is probably a sealing layer intended to seal off the faeces layer when the pit ceased to function as a latrine. The majority of the mineralised seeds come from common field weeds, but one species stood out, namely a number of seeds from slender naiad (*Najas flexilis*), an aquatic plant which is now extinct in Denmark. It grows in shallow waters of lakes and is known only from very few sites in Denmark. The occurrence of it in the sample from A31003 is thus hard to explain, but the seeds may have come with water brought in from, for example, an oxbow lake at the stream Tryggevælde Å. The

seeds from slender naiad have become mineralised due to the faeces, but it is unlikely they ended up in the pit as part of these.

The pollen analysis from layer 26 (see Table 5.4) showed that the sample contained mainly pollen from insect-pollinated plants (see Fig. 5.4). The sample contained very little pollen from wind-pollinated plants such as grasses and practically none from trees. This combination can almost only arise from honey, which supports the interpretation that these layers consist of human faeces. The almost total absence of wind-pollinated plants suggests that the latrine was used for an extended length of time it must have been roofed. This is also underpinned by the presence of postholes on either side of the pit (see Fig. 5.5).

The function of the pits

With the exception of A20394, where a burnt layer was preserved in the pit, and A31003, which probably functioned as a latrine for a period of time, the analyses speak exclusively of the final function of the pits as rubbish dumps, where waste from fireplaces, households, etc. was deposited. In the features described as possible wells, there were no water-deposited layers with uncharred material preserved, as would be expected in a well, but draining from recent times may have changed the hydrology so that possible water-deposited layers have decomposed.

Cooking pits

Samples were taken from a large number of cooking pits, but only a few contained macrofossils other than charcoal. The pits A10049, A10050, A10051, A10053, A10104, A10107, A10108, A10109, A10110, A10111, A10114, A10120, A10253, A20041, A20432, A20433, A20434, A20437, A20438, A30178, A30192, A30107, A30322, A30531 and A30535 contained only charcoal of up to 50 mm in size.

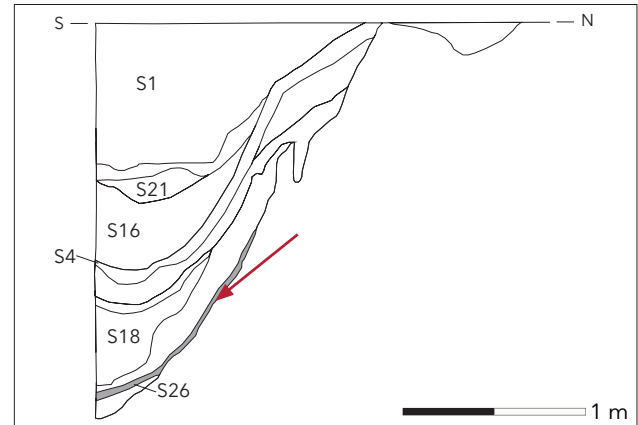


Fig. 5.3. Pit A31003, the layer of faeces is indicated with an arrow. Photo: Museum Southeast Denmark.

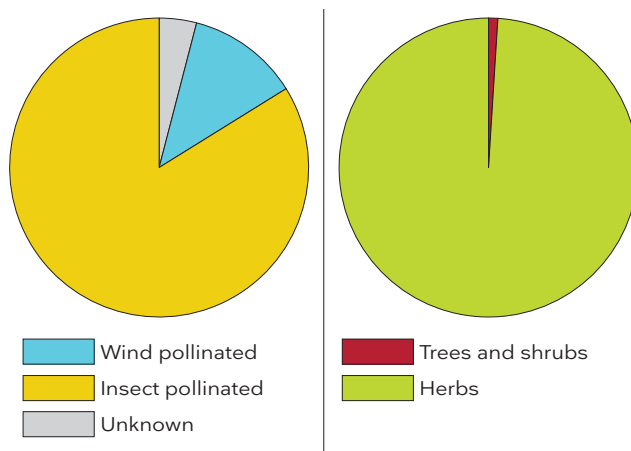


Fig. 5.4. The proportion of pollen from wind- and insect-pollinated plants (on the left) and the proportion of pollen from trees and bushes and herbs (on the right) in the sample from the faeces layer in pit A31003.

The cooking pits are all interpreted as belonging to the settlement and thus as dating from the Late Iron Age. In a few cases, this dating can be confirmed and nuanced on the basis of either finds of objects or ^{14}C -dating.

Cooking pit A20403

One sample from the lower part of the fill has been analysed. Apart from a large amount of charcoal, it contained a small number of cereal grains that could be identified as barley and rye.

The pit is dated to the Viking Age (^{14}C (95%): cal AD 780–785/880–990).

Cooking pit A20435

One sample from the lower part of the fill was analysed. Apart from a large amount of charcoal, it contained a few grains of barley, seeds from elder (*Sambucus nigra*) and twigs and buds. The pit is dated to the Viking Age (^{14}C (95%): cal AD 885–995).

Cooking pit A30542

One sample from the middle of the fill was analysed. Apart from a large amount of charcoal, it contained a few grains of common wheat, rye and oat (*Avena sativa*) as well as a large number of seeds from field weeds and two spheroidal hammerscales.

The function of the cooking pits

It is unlikely that the plant remains from the cooking pits say anything about the function of the pits, being very few



Fig. 5.5. Photo and drawing of pit A31003 with postholes on either side. Photo and illustration: Museum Southeast Denmark.

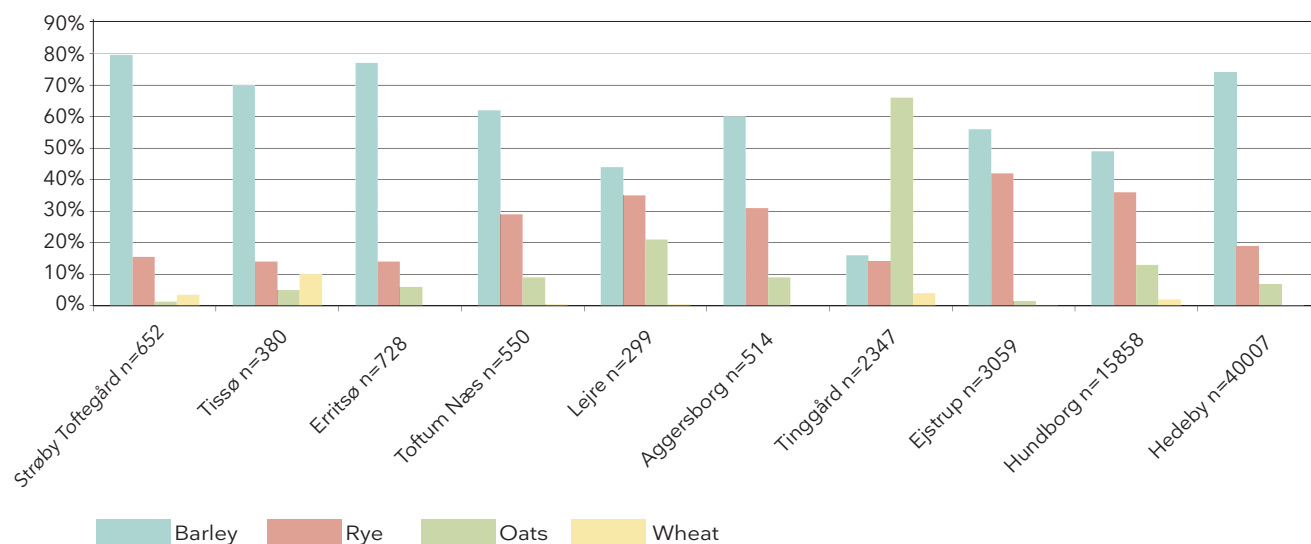


Fig. 5.6. The distribution of cereal species in Viking Age finds from Denmark and Northern Germany. (After Jessen 1954; Behre 1983; Robinson & Michaelsen 1988; Robinson 1991; Henriksen 2006a; Henriksen 2006b; Henriksen & Stevnsvig 2020; Henriksen 2024; Henriksen forthcoming).

and probably coming from household waste that was burnt. The many weed seeds in A30542 are probably a waste product from grain cleaning, a process unconnected to the cooking pits but, instead, to the cultural layer covering it. All samples from the cooking pits were dominated by large pieces of charcoal from both branches and larger chunks of wood, which reflects the use of the pits as fire pits.

Cultivated plants

During the macrofossil analyses, 652 identifiable cereal grains were found in the samples. In most features only a few grains were found, making the interpretation of the significance of the different crops a little uncertain. There was no noteworthy difference in the distribution of the various

cereals from the Late Germanic Iron Age and the Viking Age, so these finds are treated together.

By far the most common type of cereal in practically all the samples is six-row barley, which constitutes about 79% of the identified grains. Of these, all could be identified as the hulled variety. The three other cereal types, rye, bread wheat and oat, made up around 15%, 4% and 1%, respectively. In Figure 5.6, this is compared with other contemporary finds. The general picture is that barley and rye were the dominant species of cereal, while oat and wheat played minor roles. It must, however, be taken into account that the picture may be affected by differences in the likelihood of various types of grains becoming charred. The carbonised rye, wheat, and oat grains probably originate from spilled grains; the use of grains for bread or porridge

itself does not pose a risk of charring. In contrast, barley, which has likely been extensively used for brewing beer, had to be dried by heating after the malting, introducing a risk of accidentally burning some grains.

The macrofossil analyses show a distribution among the various crops that greatly resembles that found at contemporary elite residences at Tissø and Erritsø. Barley, which was probably to a large extent used for brewing beer, dominates almost all Viking Age finds. The finds from Strøby Toftegård, Tissø and Erritsø nonetheless stand out from other contemporary finds in the ratios of rye and wheat, both of which were presumably used for bread. In most finds, the proportion of rye amounts to between 20% and 40%, but there is only around 15% rye in the finds from Strøby Toftegård, Tissø and Erritsø. At the same time, the sites reveal a higher proportion of wheat grains, which suggests that wheat-made bread played a greater role in the magnate milieu.

The cultivation of oat remains uncertain, since cultivated oat and common wild oat (*Avena fatua*) cannot be told apart on the basis of the grain alone. Even so, oat occurs in about the same proportion in all finds from the period, and in some other finds it has been identified from the husks as cultivated oat. It is thus fair to assume that the version represented in all finds is primarily cultivated oat.

A single seed of flax reveals the possible cultivation of this plant as a fibre and/or oil plant.

As mentioned, the pit A30565, dated to (^{14}C (95%): cal AD 660–770), yielded almost exclusively seeds from mustard or kale. This is likely the oldest pure find of seeds from mustard/kale in Denmark, and it may indicate that mustard/kale was cultivated either as a leaf vegetable or a seed plant due to its glycoside-rich seeds that can be used as a spice (mustard) or for medicinal purposes. The use of seeds from mustard/kale for medicinal purposes is described by the Roman author Pliny the Elder in the 1st century AD (Bostock & Riley 1855), and in the Netherlands seeds of turnip (*Brassica rapa*) have been found, dating from the middle of the Roman Iron Age and is described by van Zeist (1974, 364) as an almost certain sign of cultivation of this species. At Uppåkra in Scania, seeds from three types of kale, *Brassica napus/rapa/oleraceus*, have been found, dating from the period from the Roman Iron Age to the Viking Age (Larson & Ingemark 2015). This is interpreted as an example of Roman-inspired gardening, since Uppåkra also yielded seeds from a range of other plants known from Roman gardening.

Wild plants

Only a small number of seeds from wild plants were found in the samples. The clear majority of these came from field weeds that have come in with the grain. However, the numbers from all the investigated houses are so low that

agricultural activities in the form of threshing and grain cleaning are unlikely to have been carried out here.

In samples from House 2 and House K215, a few charred fragments of bladderwrack were found. Similar finds of bladderwrack are known from a Viking Age cultural layer excavated at Tissø (Henriksen in press). What the seaweed was used for is so far unknown, but similar finds of charred seaweed are known from Viking Age farms in Greenland. They probably represent usage of seaweed as fuel or food (Henriksen 2016).

Summary

In summary, macrofossil analyses emphasize Strøby Toftegård's status as a residence for the elite. The composition of cultivated plants in the archaeological material from Strøby Toftegård resembles the pattern known from other contemporary high-status sites and in all the examined houses the presence of seeds from field weeds is so low that there is no indication that these houses were associated with agricultural production.

The finds of seeds from mustard or kale may, in relation to the similar finds from the elite residence at Uppåkra in Scania, could also indicate the presence of Roman-inspired gardening among the elite.

The discovery of a deep pit with a layer of human faeces at the bottom, probably covered by a construction with a roof, is an interesting find. It is most likely the first documented latrine from Danish prehistory.

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The animal bones from Strøby Toftegård – feasting and everyday life

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Abstract

*The excavations of the Late Iron Age and Viking Age magnate settlement of Strøby Toftegård near Stevns provided a large number of animal bones. The analysed portion originated from 169 contexts comprising refuse layers, pits, cooking pits, pit houses, wells and postholes from five large longhouses and a number of smaller buildings. The species list comprised at least 44 different taxa of fish, amphibians, birds and mammals. Pigs (*Sus domesticus*), cattle (*Bos taurus*) together with sheep (*Ovis aries*) and goats (*Capra hircus*) constituted the cornerstone of the economy. Finds of salmonid fish (*Salmonidae*), a number of wild bird species, such as grey heron (*Ardea cinerea*), whooper swan (*Cygnus Cygnus*), white-tailed eagle (*Haliaeetus albicilla*) and other species of birds of prey, together with remains of game, such as roe deer (*Capreolus capreolus*) and red deer (*Cervus elaphus*), indicate high-status activities on the site. The kill-off pattern of the domesticated animals pointed to a focus on meat production and less on secondary products. Large quantities of meat, especially from pig, were consumed, as indicated by the intense utilisation of the bones. These activities seem most pronounced in the central part of the site with the cooking pits and large longhouses where feasting might have taken place. The settlement area surrounding the central seat of power reflects a wider variety of activities.*

Keywords: Animal bones, feasting, high status, Late Germanic Iron Age, Viking Age

During the years 1995 to 2000, the magnate settlement of Strøby Toftegård near Stevns was extensively surveyed and excavated by Svend Åge Tornbjerg (then at Køge Museum, presently at Museum Southeast Denmark) (Fig. 6.1). These campaigns were followed by specific clarifying investigations and excavations by Anna S. Beck (Museum Southeast Denmark) in the years 2011–2013. For a more detailed description of the registration and excavation methods of the two main campaigns, see Beck, Kildetoft Schultz and Tornbjerg (Chapter 1).

Although the site has been inhabited with varying intensity since Neolithic times, the more intensive habitation period providing the bulk of material derives from the middle of the 7th century AD to the latter half of the

10th century AD. Due to differentiation in the architectural make-up and differences in the distribution and quality of finds, the site has been divided into two main geographical areas; a central farm (Farm 1), with large longhouses situated on a slightly elevated plateau, and a settlement area with up to eight smaller farm units (Farms 2–9) surrounding the central farm, primarily towards the north, west and south (Beck and Kildetoft Schultz, Chapter 2) (Fig. 6.2). The find density for Farm 1 is markedly higher than for Farms 2–9 (Tornbjerg 1998, see also Kildetoft Schultz, Chapter 8), including high-status finds such as 58 arrow heads, gold foil figures (Baastrup, Chapter 7), Cufic coins (Hårdh, Chapter 9) and high-quality glass (Sode, Chapters 10, 11 and 12). Other parts of the settlement provided more ordinary finds



Fig. 6.1. Map of Denmark and Scania. The position of Strøby Toftegård on Stevns and contemporary sites mentioned in the text are shown. Illustration: Museum Southeast Denmark.

such as ceramics, knives and whetstones, together with items for textile production found in association with pit houses (Beck & Kildetoft Schultz, Chapter 2). Moreover, the various feature types of Strøby Toftegård were represented in different relative frequencies within the two main areas of the settlement. The five large longhouses occurred at Farm 1 only, and, notably, a long belt of stone-filled cooking pits formed a sort of demarcation between the two main areas. Only few such cooking pits were found at Farms 2–9, whereas pit houses and wells were confined to this area. Such discrepancies within the architecture as well as find density, types and quality between the central farm (Farm 1) and the other farms may indicate differences in the social status of the people living there and/or that different activities took place within the two main areas of the site.

This paper aims to describe the overall characteristics of resource exploitation and husbandry of the Strøby Toftegård site. One of the main purposes of the present archaeo-zoological study, however, is to identify whether the above-mentioned apparent distinction between the two areas, Farm 1 and the rest of the settlement (Farms 2–9), is also reflected in the disposal patterns of the faunal material. Therefore, focus has been on the relative distribution of wild and domestic animal remains combined with the distributions of skeletal parts, sex and age profiles of the important domesticates within and between the two main areas. For instance, one would expect higher proportions of butchered, fragmented meat-bearing skeletal parts from cuts reflecting high-status consumption in, for example, cooking pits of Farm 1 opposed to other context types from the rest of the settlement. Moreover, one would likewise expect that special, status-marking species would appear in relatively higher numbers in Farm 1 compared to the other

farms. Such expectations may be challenged by observations made by for instance Friesen & Betts (2002, 73), who based on archaeo-zoological examinations of Inuit contexts in High Arctic Canada concluded that the observed departure from expected patterns were caused by a number of taphonomic agents and human activities that have obscured the original, primary activities. Still, it is assumed that different types of features at Strøby Toftegård reflect activities which happened in the vicinity of the feature in question, and also that the feature type, be it a well, culture layer or posthole, was to some extent determining for what ended up in any given feature. By applying analyses to describe taphonomic pathways of the animal remains from the various feature types, the aim of the present study is to identify which activities took place in connection with specific contexts and specific areas of the site and thus to qualify the interpretation of Farm 1 as the residence of a magnate.

Materials and methods

The faunal material derives from a number of different contexts located within the area of the large longhouses and the settlement area, respectively. Still, the bulk of animal bones came from wells or various pits, either deep rubbish pits or special cooking pits often containing fire-cracked stones and burnt bones. Material from postholes has been included in the study but mainly in order to find identifiable material for radiocarbon dating. During excavation, dry sieving was carried out on material from the majority of features using sieves with a 3 mm mesh size. The proportion of sieved material, however, varied between excavation campaigns and context types (Beck, Kildetoft Schultz & Tornbjerg, Chapter 1).

Part of the faunal material deriving from the central farm has previously been sorted and identified by Liv Ljungar (Ljungar 1997), whereas the present author (Gotfredsen 2000) identified faunal remains of some contexts from the settlement area. During the present study, the previously analysed faunal remains have been re-analysed. Furthermore, selected contexts, not previously analysed, from the 1995–2000 as well as the 2011–2013 campaigns have been included. The remainder of the material was screened for additional species, which did not appear in the analysed portion. Moreover, bone elements, which could be sexed or measured, as well as mandibles and/or teeth used for ontogenetic age determinations, were selected to increase the amount of data for the demographic analyses.

The faunal material was identified by use of the comparative collection of the Natural History Museum of Denmark, University of Copenhagen. The bones were identified according to species, skeletal element, portion of the bone and side. For the separation of sheep and goat, the morphological criteria defined by Boessneck *et al.* (1964) and Zeder & Lapham (2010) were applied. For identification of ducks, Woelfle (1967) and for corvids, Tomek & Bocheński



Fig. 6.2. Plan of the site and excavated areas indicating the approximate delimitation of the central farm (Farm 1), with the rest of the settlement (Farms 2–9) circumscribing the central part, especially towards the north, east and west. The distribution of structures ($n = 169$), including analysed bone material, is marked (blue). Structures including the screened bone material ($n = 148$) are not marked. Illustration: Museum Southeast Denmark.

(2000) were consulted. The morphological distinction between domestic goose (*Anser domesticus*) and its wild progenitor (*Anser anser*) is notoriously difficult, although morphometrics may support identification (e.g., Reichstein & Pieper 1986). For the purposes of the present study, it was not attempted to separate domestic goose from other large species of the genus *Anser*. Most of the goose remains at the Strøby Toftegård site were very robust and considered to be of the domestic form. Separation of mallard and domestic duck face the same problems as for geese. Based on archaeo-zoological and written evidence, however, most scholars agree that duck husbandry developed fairly late during medieval time and played a minor role compared to goose husbandry (e.g., Makowiecki & Gotfredsen 2002, 78; Tyrberg 2002; Albarella 2005a, 254–256). For these reasons, all bones of the genus *Anas* were considered to derive from wild birds.

Moreover, sex and ontogenetic age were assessed when possible. The age determination was based on mandibles with

teeth *in situ* or isolated mandibular deciduous premolars (dp_4) or molars (M_3). Tooth eruption and wear stages were assessed according to the definitions by Ewbank *et al.* (1964) and Grant (1982). The attributing of single teeth and mandibles to dental groups or stages followed Lemoine *et al.* (2014) for pigs, Legge (1992) for cattle and Zeder (2006, figs 18 and 32) for sheep and goats. In order to maximise the number of teeth and mandibles attributable to a specific stage, left and right-hand specimens were included. Moreover, a system proposed by Payne (1973, 293–296) was applied. He used ‘raw counts’ of specimens attributed to one specific stage in order to incorporate specimens which could, in the first place, be attributed to more than one stage. Definitions of measuring crown heights on horse teeth and age estimations for horses followed Levine (1982). Canine teeth were used for sexing pigs by applying criteria from Mayer & Brisbin (1988); moreover, the female canine teeth were age determined according to Habermehl (1975, 134–136). Pigs’ canine teeth from the maxillary, as well as the mandible from both sides, were

included, which seems justified by the fact that the material comes from many different contexts deposited over several hundred years, hence the risk of counting an individual several times is considered. Further, double-counting elements from the same individual have no impact on the overall age patterning (cf. Lemoine *et al.* 2014, 181).

Bone surface alterations such as gnawing, trampling and weathering were assessed, and in addition pathology. The weathering stage was rated according to Behrensmeyer's scale (1978). Man-made bone alterations, for example burning and butchery marks, were studied macroscopically and possible cut marks subsequently checked in a stereo Olympus Microscope. The definitions of cut mark types followed Binford (1981, 106–142, table 4.04) and interpretations of butchering marks followed Binford (1981) and Noe-Nygaard (1989).

The material was quantified by NISP counts (Number of Identified Specimens), which is the generally accepted way of measuring taxonomic abundance despite the drawbacks that this method has (cf. Grayson 1984; Lyman 1996). However, for some selected species, the MNEs (Minimum Number of Elements) were used to calculate the MAU (Minimum Animal Unit) values, which is understood as the minimum animal units necessary to account for the specimens of a bone assemblage (see Binford 1981; Lyman 1996, 104–105). This provides a more realistic picture of the representation of the various skeletal elements in an assemblage than NISP and MNI (Minimum Number of Individuals) values do. Measurements were, if nothing else is mentioned, carried out according to Driesch (1976), whereas methods for calculation of withers heights followed the recommendations by Driesch & Boessneck (1974), except for horses (*Equus caballus*) and cattle (*Bos domesticus*) where May (1985) and Fock (1966), respectively was followed.

Taphonomic aspects, structure types and chronology

The present study comprised analysed material from a total of 169 contexts with 90 features located in Farm 1 and 79 in Farms 2–9 (Fig. 6.2). This material was used for the quantitative analyses on species and element distribution, taphonomic variables, etc. The remaining contexts with animal bones were screened for additional faunal material used for age and sex determinations and morphometrics, so that age structure and sex distributions as well as size estimations are based on material from all excavated structures. Altogether, 148 contexts contributed with additional screened material from the central area with Farm 1, 24 contexts (cooking pits (n=9); postholes (n=8) and pits (n=7)) and from the settlement area with Farms 2–9, 124 contexts (cooking pits (n=10); wells (n=4); pit houses (n=6); postholes (n=36); pits (n=67) and refuse layers (n=1)). A large number of screened postholes at Farm 1 did not provide

any identifiable bone fragments. The various feature types that have been analysed were unevenly distributed between the two main settlement areas. Pits and postholes occurred with about equal frequencies, whereas wells and pit houses were found exclusively within Farms 2–9 and the so-called cooking pits with many fire-cracked stones clearly predominated at Farm 1 (Table 6.1). The observed distribution of features was characteristic not only for contexts including animal bones but for the whole site (see Beck and Kildetoft Schultz, Chapter 2).

The bone material

In total, 23,738 fragments were analysed. Due to heavy fragmentation prior to and after deposition combined with extensive sieving applied to a large number of feature types, the identified portion only comprised c. 22% (n=5,162), whereas the portion that could be classified only according to class, for instance Pisces, Aves and Mammalia, amounted to c. 78% (n=18,576).

Altogether, the bone material was rather poorly preserved. Much leeching of organic as well as inorganic bone substances had occurred, making the bones brittle and resulting in modern breakage, which presumably happened during recovery. Some of the bones, however, had already been highly fragmented prior to deposition. The proportion of bone fragments (excluding teeth) from domestic mammals (including Ungulata sp.) that exhibited ancient fragmentation amounted to c. 64% and 42% percent at Farm 1 and Farms 2–9, respectively. In addition, a substantial number of bones exhibited modern fragmentation, amounting to c. 29% at Farm 1 and 19% at Farms 2–9. The extent of fragmentation was partly related to context type with the wells typically containing higher proportions of intact bones than other contexts. The analysed number of fragments was equally distributed between Farm 1 and Farms 2–9. However, the identified portion varied among feature types and tended to be greater for the settlement area (Farms 2–9), with a mean identifiable portion of about 25% whereas it was c. 19% for the central area (Farm 1) (Table 6.2). Especially burning and perhaps other taphonomic factors seem to be responsible for this pattern.

The amount of burnt bone material on the site varied to a great extent depending on context type and differed between the two main areas of the site (Table 6.3). The average burnt portion amounted to c. 18% at Farm 1 with, not surprisingly, the cooking pits having the highest relative burnt proportion of c. 30%. At Farms 2–9, the average burnt proportion was around 10% with the pit houses having the highest proportion of c. 25%, whereas other contexts, such as wells and pits, contributed only few burnt bones. Due to the small sample sizes of cooking pits and postholes from Farms 2–9, it was difficult to directly compare these with specific feature types from Farm 1.

Table 6.1. Distribution of feature types, including the analysed bone material from Strøby Toftegård, for Farm 1 and Farms 2–9.

	Wells	Pits	Cooking pits	Pit houses	Postholes	Refuse layers	Total
Farm 1	0	8	26	0	53	3	90
Farms 2–9	9	10	1	3	56	0	79
Total	9	18	27	3	109	3	169

Table 6.2. The analysed bone material by total number of fragments (*N* bones), the identified portion NISP and percentage of the analysed portion distributed by feature type for Farm 1 and Farms 2–9.

	Farm 1			Farm 2–9		
	<i>N</i> bones	NISP	% NISP	<i>N</i> bones	NISP	% NISP
Wells				4214	1194	28.3
Pits	5876	1002	17.1	4412	844	19.1
Cooking pits	4141	862	20.8	1	1	100.0
Pit houses	–	–	–	2693	724	26.9
Postholes	629	126	20.0	276	119	43.1
Refuse layers	1497	267	17.8	–	–	–
Total	12,143	2257	18.6	11,596	2882	24.9

In general, the bone material showed low average weathering, although the bones at Farm 1 seemed on average to be slightly more weathered, that is, with proportionately more bones showing weathering stages 1, 2 or 3, *sensu* Behrensmeyer (1978), than bones from Farms 2–9 (Table 6.4). This pattern is seen rather consistently for the major domesticated species and was also observed for the unidentified portion of mammal remains. Gnawing, on the other hand, mostly inflicted by dogs and other carnivorous scavengers, was more frequently observed on bones deriving from Farms 2–9. One would expect pre-depositional damage such as gnawing, trampling and weathering to be a function of the time the faunal material had been sub-aerially exposed prior to deposition. The observed pattern of gnawing may reflect that scavengers had easier access to rubbish at Farms 2–9 than at Farm 1. However, the material from Farm 1 is generally more fragmented and on average twice as heavily burnt as the material from the rest of the settlement, thus rendering difficult the visual detection of fine scoring and pitting of the bone surface, such as that made by dogs.

Dating

The chronological overview of the site was made from typological dating and series of radiocarbon dates on bone material and charred grains deriving from a number of different features at Strøby Toftegård (see Beck and Kildetoft Schultz, Chapter 2; Kildetoft Schultz, Chapter 4). The animal bone material sought out for dating derived mainly from postholes of the long houses within Farm 1 but also buildings from the rest of the settlement. Most of the species-identified animal bones derived from wells, pit

houses, pits and cooking pits, which for the main part of the excavation were not radiocarbon dated. From what could be deduced from a combination of archaeological dating and radiocarbon dating, the majority of structures providing bones covered the period from the middle of the 7th century AD to the latter half of the 10th century AD (Fig. 6.3). For the above-mentioned reasons, possible chronological shifts in the use of animals on the site will not be dealt with in any further detail.

The species

The species list of the entire site is given in Table 6.5, which encompasses taxa of the intensively analysed portion of bone material; no additional species were detected during screening of the remaining faunal material at Strøby Toftegård. Figure 6.6 A–B show the distribution of the four important domesticates by feature type. Catalogue 1, which can be accessed online here: <https://natmus.dk/cultsites/>, Tables 5–6 give the distribution of skeletal elements and Figures 6.8–6.10, 6.12, 6.16 and 6.17 and Catalogue 1, Tables 8–10, 13 and 14 give the age and sex distributions of the important domesticated species. The species list amounts to at least 44 species, comprising nine fish taxa, at least three species of frogs and toads, 17 avian species of which two were domestic and, finally, 15 mammalian species of which seven were domesticates.

The fish species

A total of 1128 fish bones (including the unidentified portion) originate from various structures at Strøby Toftegård, the majority deriving from Farms 2–9 (*n* = 702), whereas

Table 6.3. The proportion of various degrees of burning for different main feature types at Farm 1 and Farms 2–9.

	Farm 1					Farms 2–9				
	Bnt	Car	Cal	Total burnt	%burnt	Bnt	Car	Cal	Total burnt	%burnt
Wells						6	16	86	108	2.6
Pits	192	239	240	671	11.4	61	42	183	286	6.5
Cooking pits	854	109	294	1257	30.4	0.0	0.0	0.0	0.0	0.0
Pit houses	–	–	–	–	–	17	63	600	680	25.3
Postholes	43	11	104	158	25.1	4	2	16	22	8.7
Refuse layers	1	13	50	64	4.3	–	–	–	–	–
Total	1090	372	688	2150	17.7	88	123	885	1096	9.5

Bnt=slightly burnt; Car=carbonised and Cal=calcined. The percentage was calculated based on all specimens, unidentified as well as identified.

Table 6.4. The proportion of gnawed bones of important mammal groups and their average weathering stage as scored according to the weathering stages established by Behrensmeyer (1978).

	Farm 1			Farms 2–9		
	Gnawing	% NISP	AWS	Gnawing	% NISP	AWS
Pig	31	11.2	0.2	45	10.0	0.1
Cattle	45	15.2	0.3	93	25.4	0.2
Ovicaprines	12	13.2	0.4	36	14.8	0.1
Horse	3	10.0	0.3	21	23.3	0.1
Ungulates	16	4.3	0.3	10	2.4	0.0
Mammals	0	0.0	0.3	0	0.0	0.1
Total	107	10.0	0.3	205	13.1	0.1

The percentage was calculated based on NISP counts, except for teeth. AWS=average weathering stage.

few fish remains ($n = 426$) were recovered from Farm 1. The list comprises at least nine species of marine, anadromous, *i.e.* migrating between marine and freshwater environments, and true freshwater species (Table 6.5). Altogether, marine species dominated with *c.* 72% of the identified fish remains, gadids being the most important taxon (42.5%) followed by herring (*Clupea harengus*) (28.4%) and with only trace amounts of garfish (*Belone belone*) (1.5%). Fishing was supplemented with flatfish from the plaice/flounder/dab (*Pleuronectes platessa*/*Platichthys flesus*/*Limanda limanda*) group (6.9%) and pike (*Esox lucius*) (1%) occurring in brackish water and with freshwater species such as cyprinids (4.5%) and perch (*Perca fluviatilis*) (14.3%). Anadromous salmon (*Salmo salar*) or trout (*Salmo trutta*) comprised 1.4% (Fig. 6.4).

Distribution of fish taxa within the site

Although comprising the smallest sample size, Farm 1 exhibited slightly greater fish species diversity than that found at Farms 2–9. It should be noted that salmon/trout bones were confined to Farm 1, located in two large pits (A10001 and A10004) and two cooking pits (A10292 and

A10545), respectively. Similarly, at the central area of the Tissø site, fish remains from postholes of the monumental halls of the Fugledegård residence and structures within the residential area exhibited greater species diversity than features outside the residence fence. Furthermore, salmonid remains were practically confined to the residence area (Gotfredsen 2006, 33; forthcoming). Salmonid species are normally considered a luxury food reserved for the upper class (Zbierski 1976). Quite a number of salmon/trout bones found at Lejre/Mysselhøjgård, dated to the 7th–11th centuries, were interpreted as an indication of status (Enghoff 1999, 48). At Strøby Toftegård, the flatfish group was all but confined to Farm 1, whereas herring occurred in both areas but with relatively higher frequencies at Farms 2–9 (see Fig. 6.4). Thus, there seems to be a real difference in diversity and relative frequencies between the two main areas of the site; however, the sample sizes for both areas are admittedly small.

In Catalogue 1, Table 1, the distribution of skeletal elements of the various fish taxa is given. The varied representation of the skeletal elements is most likely due to different sizes and degrees of robustness of the bone

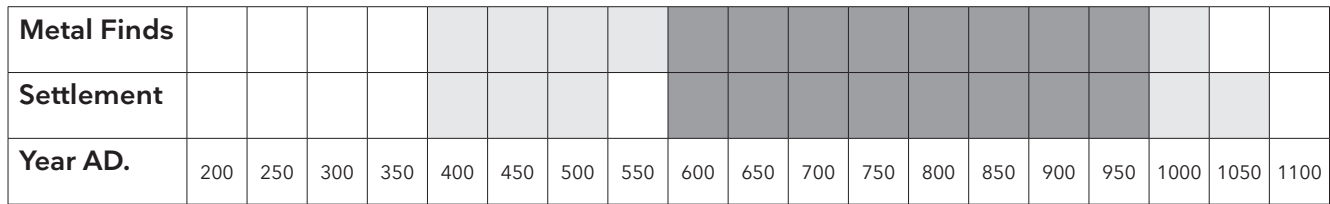


Fig. 6.3. Dating of metal finds and the occupation period of the Strøby Toftegård site. The dark shading marks the most intensive habitation period of the site. Illustration: Museum Southeast Denmark.

Table 6.5. The identified taxa at Strøby Toftegård for Farm 1 and Farms 2–9 as quantified by NISP.

Common name	Scientific name	Farm 1	Farms 2–9	Total
FISH				
Herring	<i>Clupea harengus</i>	16	190	206
Salmon/trout	<i>Salmo salar</i> / <i>Salmo trutta</i>	10	0	10
Pike	<i>Esox lucius</i>	2	4	6
Cyprinids, unspecified	Cyprinidae	6	24	30
Garfish	<i>Belone belone</i>	11	0	11
Cod	<i>Gadus morhua</i>	28	17	45
Gadids, unspecified	Gadidae	106	157	263
Plaice/flounder/dab	<i>Pleuronectes platessa</i> / <i>Platichthys flesus</i> / <i>Limanda limanda</i>	49	1	50
Perch	<i>Perca fluviatilis</i>	71	33	104
Total fish, specified		299	426	725
Fish, unspecified	Pisces sp.	127	276	403
AMPHIBIANS				
Common toad	<i>Bufo bufo</i>	0	4	4
Toads, unspecified	<i>Bufo</i> sp.	7	33	40
Moore frog	<i>Rana arvalis</i>	0	1	1
Edible frog	<i>Rana esculenta</i>	1	0	1
Pond frogs, unspecified	<i>Rana</i> sp.	0	1	1
Frogs, unspecified	<i>Pelobates</i> / <i>hyla</i> / <i>Rana</i> sp.	0	6	6
Frogs and toads, unspecified	Anura sp.	21	46	67
BIRDS (wild)				
Heron	<i>Ardea cinerea</i>	0	3	3
Teal	<i>Anas crecca</i>	2	1	3
Mallard	<i>Anas platyrhynchos</i>	15	0	15
Teal/garganey	<i>Anas crecca</i> / <i>querquedula</i>	2	0	2
Northern shoveller	<i>Anas clypeata</i>	0	1	1
Dabbling ducks	<i>Anas</i> sp.	3	6	9
Swans/geese/ducks	Anatidae	6	0	6
Whooper swan	<i>Cygnus cygnus</i>	0	1	1
Swans	<i>Cygnus</i> sp.	0	1	1
White-tailed eagle	<i>Haliaeetus albicilla</i>	0	1	1
Buzzard	<i>Buteo</i> sp.	0	1	1

(Continued)

Table 6.5. The identified taxa at Strøby Toftegård for Farm 1 and Farms 2–9 as quantified by NISP. (Continued)

Common name	Scientific name	Farm 1	Farms 2–9	Total
Harrier, unspecified	<i>Circus</i> sp.	1	0	1
Stock dove	<i>Columba oenas</i>	0	1	1
Common magpie	<i>Pica pica</i>	0	7	7
Jackdaw	<i>Corvus monedula</i>	1	0	1
Crow/Rook	<i>Corvus corone/ frugilegus</i>	13	7	20
Starling	<i>Sturnus vulgaris</i>	0	1	1
House sparrow	<i>Passer domesticus</i>	1	0	1
Paserines	Passeriformes	1	1	2
BIRDS (domestic)				
Goose, unspecified	<i>Anser</i> sp.	23	21	44
Domestic chicken	<i>Gallus domesticus</i>	0	31	31
Total birds, specified		68	84	152
Birds, unspecified	<i>Aves</i> sp.	279	93	372
MAMMALS (wild)				
Common mole	<i>Talpa europaea</i>	1	1	2
European hare	<i>Lepus europaeus</i>	0	1	1
Water vole	<i>Arvicola terrestris</i>	21	26	47
Field vole	<i>Microtus argrestris</i>	0	1	1
Vole, unspecified	<i>Microtus</i> sp.	2	2	4
Mice, unspecified	Muridae sp.	4	20	24
Least weasel	<i>Mustela nivalis</i>	0	1	1
Grey seal	<i>Halichoerus grypus</i>	0	1	1
Red deer	<i>Cervus elaphus</i>	0	3	3
Roe deer	<i>Capreolus capreolus</i>	0	3	3
Cervids	Cervidae	0	2	2
Total wild mammals		28	61	89
MAMMALS (Domestic)				
Dog	<i>Canis familiaris</i>	5	13	18
Cat	<i>Felis catus</i>	0	1	1
Pig	<i>Sus domesticus</i>	647	680	1327
Cattle	<i>Bos taurus</i>	476	482	958
Sheep	<i>Ovis aries</i>	19	36	55
Goat	<i>Capra hircus</i>	0	3	3
Sheep/goat	<i>Ovis/Capra</i>	269	309	578
Bovids	Bovidae	0	3	3
Horse	<i>Equus caballus</i>	37	97	134
Total domestic mammals		1453	1624	3077
Ungulates, middle-sized	Ungulata sp.	126	76	202
Ungulates, large	Ungulata sp.	245	171	416
Mammals, unspecified	Mammalia sp.	9480	8321	17,801
Unspecified		0	200	200

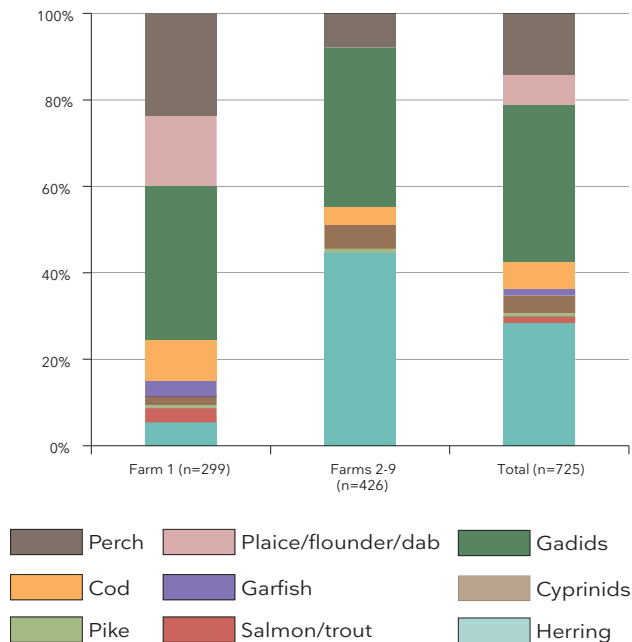


Fig. 6.4. The relative distribution of fish identified to taxon, from Farm 1 and Farms 2–9 at Strøby Toftegård.

elements in question. There is no evidence of processing cod (*Gadus morhua*) for stockfish or import of processed gadids at Strøby Toftegård. The herring bones show no signs of being remnants of herring industry, since all body parts are represented. No butchery marks were found on the fish bones.

Fishing techniques and the size of the fish

A few first, second and third vertebrae of cod could be measured according to guidelines by Casteel (1976), and the total length (T.L.) thus calculated by using Enghoff's (1994, 2016) regression equations (Catalogue 1, Table 2). The total length of cod varied between 35 cm and 68 cm (n=9). Moreover, two very large precaudal cod vertebrae from pit A10004 at Farm 1 and one from pit A12620 at Farm 6 were slightly smaller than those from a modern cod with T.L. of 101 cm (Catalogue number: ZMUC, PK 409). This indicates that fairly large cod were caught. This observed size distribution is similar to the distribution at other high-status sites of the region. At the Tissø site, cod were between 35 cm and 88 cm long, with the majority being 38–62 cm (Gotfredsen 2006, 33). Mysselhøjgård at Lejre provided cod with a total length between 35–55 cm but with three additional much larger individuals up to 109 cm, and at the roughly contemporaneous Birkely at Lake Arresø, most cod were 45–70 cm long, although the total range was 35–119 cm (Enghoff 2016, 150). Inclusion of smaller-sized cod would be expected if cod fishing had been done entirely by means of stationary near shore fishing traps (see Enghoff 1994, fig. 4), which means that hook fishing with lines may

have been practiced by the people of Strøby Toftegård (see discussion in Gotfredsen, forthcoming). However, it should be kept in mind that the lack of small-sized cod may be due to recovery bias (cf. Enghoff 2011, 156). It has been suggested that the combination of smaller cod sizes and the very large ones seen at Iron Age and Viking Age sites is the result of hook-and-line fishing on deep water probably combined with bycatch from net fishing for herring (see Enghoff 2016, 153).

Fishing at Strøby Toftegård

Fishing at Strøby Toftegård was probably of a local nature and the composition of the catch was strongly influenced by the fish fauna of the local waters. Fishing equipment is scarce at the site, although one possible fishing hook was found (cat.no. 508) (Maja Kildetoft Schultz, pers. comm. 2017). Enghoff (1999, 78) has suggested that there is a general tendency towards the greater relative importance of herring in eastern Denmark and that the discrepancies that have been observed are not due to sampling bias. The higher proportion of herring seen at Selsø Vestby and Mysselhøjgård at Lejre near Roskilde Fjord (Enghoff 1999) resembles the picture seen at Strøby Toftegård. Herring also seems to predominate in fish assemblages from Uppåkra (see Magnell *et al.* 2013). Most likely, the reliance on herring at Strøby Toftegård was even greater than what can be deduced from the frequencies emerging from the present study, due to the lack of fine sieving. For instance, during sieving experiments, Enghoff (2011, 156) documented an increase in the relative importance of herring from 4% to 23% by including sieving fractions recovered by means of 2 mm and 1 mm mesh sizes. The presence of 38 dentary bones of herring, seen against the very few recovered vertebrae from Strøby Toftegård, further indicates a large taphonomic loss of herringbones. In contrast to the above-mentioned sites, Birkely which is a roughly contemporaneous Viking Age settlement at Arresø (Enghoff 1999) and the Tissø site (Gotfredsen forthcoming), located in northern and western Zealand, respectively, relied more on cod, which seems to confirm that herring fishery prevailed in eastern Denmark.

The wild bird and mammal species

The avifauna

The wild avifauna, represented with at least 15 species, was dominated by dabbling ducks, especially mallard (*Anas platyrhynchos*) but also teal (*Anas crecca*), possibly garganey (*Anas querquedula*) and northern shoveler (*Anas clypeata*). Notably, a number of large bird species came to light, such as grey heron and whooper swan, together with three different raptor species, viz. unspecified harrier (*Circus* sp.), unspecified buzzard (*Buteo* sp.) and white-tailed eagle. Moreover, the site provided remains of stock dove (*Columba oenas*), a number of corvids, including common magpie (*Pica pica*), jackdaw (*Corvus monedula*) and crow or rook

(*Corvus corone/frugilegus*), and a few small passerines such as starling (*Sturnus vulgaris*) and house sparrow (*Passer domesticus*) (Catalogue 1, Tables 3–4).

The wild bird species reflected the surrounding biotopes with woodland (corvids), lakes and ponds (dabbling ducks, grey heron and white-tailed eagle) and open landscapes with marshes (harrier and buzzard) (see also Gotfredsen 2014, Table 2, Fig. 4). The diversity of bird species at Strøby Toftegård differed markedly from rural contemporaneous sites but was comparable to the diversity seen at other high-status settlement sites (ibid.).

The abundance of bird bones at Farm 1 (n=68) and Farms 2–9 (n=84) is comparable, although the number of different taxa found at the central area (n=6) comprised less than half the number found at the settlement area (n=13) (see Table 6.5). The aforementioned large, impressive birds, including grey heron, whooper swan and white-tailed eagle together with buzzard, all derived from the settlement area, that is, Farms 2–9, whereas most dabbling ducks, corvids and the harrier were found at Farm 1. This discrepancy may be due to the generally better preservation conditions in features of Farms 2–9 compared to Farm 1. Further, the majority of bones from Farm 1 derived from cooking pits and postholes, with the former primarily reflecting food remains. The large birds may constitute food (heron and swans) but bird products other than meat were probably also utilised for various purposes, for instance feathers for arrow fletching or decoration and long bones used for tool production or as small containers. Bones, mostly wing elements, from swans and eagles at Iron Age and Viking Age sites often exhibit cut marks resulting from dismembering and the removal of feathers, whereas some have even been modified into tools (see Gotfredsen 2014 with references). However, no such cut marks were seen on the bones of large bird species at Strøby Toftegård. The single find of a leg bone from a white-tailed eagle contrasts with the preponderance of eagle wing bones usually seen at other Germanic Iron Age and Viking Age sites (e.g. Reichstein 1974; Boessneck *et al.* 1979; Reichstein & Pieper 1986). The swan wing bone derived from a pit house (G101), the heron wing tip bones from a well (A13984) and the white-tailed eagle femur from a pit house (G102). These bird remains in structures located within Farm 3, although situated in proximity to the central Farm 1, probably reflect that these species served other purposes than mere consumption. The avian assemblages, albeit of restricted sizes, show that most bird bones from Farm 1 comprise ducks and geese, which signals consumption. It is, however, not known whether the corvids were consumed, although some of the bones of crow or rook represented juvenile or subadult birds.

The mammalian fauna

The wild mammalian species can be divided into two groups. One encompasses small burrowing mammals, such as common mole (*Talpa europaea*) and, belonging to the Microtinae, water vole (*Arvicola terrestris*) and field vole

(*Microtus agrestis*), which were most likely contemporaneous with the site, but may also constitute later intrusions into the settlement layers. This may likewise be the case with respect to amphibians, such as toads and frogs, represented in Table 6.5. These species are found in the central area as well as the settlement area. Of particular interest is an intact femur of the small mustelid least weasel (*Mustela nivalis*) (Fig. 6.5). This species has previously been recorded from only four other localities in Denmark. Least weasel remains were recovered from a bronze box in a Bronze Age grave near Frederikssund, at the Viking Age site of Snubbekorsgård, at the Late Medieval site of Stakhaven in Dragør (see Aaris-Sørensen 2009, 19), and recently three bones were recovered from tar remains of a medieval ship wreck known as Kalverev Syd (Petersen 2018). We do not know whether this tiny mustelid was actively hunted because of its fur or ended up accidentally in a Viking Age pit house (G102) in the settlement area. The species prey on voles and thrive in fields and open woodland habitats, that is, a type of landscape, which, judging from the avifauna, was present in the vicinity of the site.

The other group constitutes the hunted game, comprising only trace amounts (< 0.3%) of the identified mammal bones, and all originating from the settlement area (Farms 2–9). The only fragment of a marine mammal was a right zygomatic bone of a subadult grey seal (*Halichoerus grypus*) found in a Viking Age well (A12548). The terrestrial species comprised European hare (*Lepus europaeus*), represented by a proximal radius in a well (A13010) dated to the Late Germanic Iron Age and in addition three fragments of roe deer and three fragments of red deer. The roe deer remains consist of two phalanges from a Viking Age pit house (G102), probably deriving from the same individual, and a right frontal bone of a male with broken off antler found in a Viking Age pit (A13155). Red deer was represented by the main part of a left pelvic bone (level 40–50, x1199, cut 1) of a male (stag) and a lumbar vertebra (level 20–30, x1183, cut 1), both found in a very deep Viking Age latrine pit (A31003). The red deer remains possibly represent two individuals since they originate from different levels. The pit contains settlement waste radiocarbon dated (¹⁴C (95%): cal AD 775–970) but was interpreted to have been the earliest possible latrine (Henriksen and Mortensen, Chapter 5). Moreover, a posthole (A12991) produced a worked red deer tine with hacks, broken into two pieces, and finally a large Late Iron Age pit (A12620) produced two weathered antler fragments that may also derive from red deer. Due to the limited number of antler fragments observed, there seems not to have been any significant comb production at Strøby Toftegård, although some combs have been retrieved from the site (Maja Kildetoft Shultz, pers. comm. 2017).

The domesticated animals

Not surprisingly, domesticated mammals predominated with 97.2% of the identified mammalian fragments. Dogs (*Canis*



Fig. 6.5. Femora of least weasel compared with a femur of an ermine (*Mustela erminea*). Seen from the left-hand side: an intact femur from a Viking Age pit house (G102), a femur of a modern female (K38) and a one of a modern male (K37) from least weasel and on the right-hand side one of a modern female ermine (K36). Photo: A. B. Gotfredsen.

familiaris) comprised 0.6% (n=18) whereas cat (*Felis catus*) comprised 0.3% (n=1) of the domesticated animals. The distribution of the three important meat-producing species varies only little between the two main areas of the site. Pig was overall the most frequent species comprising c. 45% at Farm 1 and c. 43% at Farms 2–9 followed by cattle constituting 33% and 30%, sheep 20% and 22%, and horse c. 3% and 6%, respectively. When looking at the relative distributions of the four major domesticates across context types, there seems to be little variation between structures and between the two main site areas (Figs 6.6). At Farm 1, the variation in relative frequencies of pig across feature types lies between c. 40% and 51% with the highest frequency occurring in pits. At Farms 2–9, the relative proportion of pigs varied between 39% in wells and pits and 54% in the pit houses. The three other domesticated species varied accordingly. Horses occurred more sparsely at Farm 1, between 1% and 4%, but were found in higher frequencies in structures belonging to Farms 2–9, for instance, in wells by 6% and in pits by 8%. The species distribution of the major domesticates thus seems to be evened out over the various structures of the site, and so the relative species frequencies by themselves cannot give very good indications of the function of the various structures.

Domestic fowl

Goose bones were found at Farm 1 and Farms 2–9 in about equal numbers, whereas domestic chicken (*Gallus domesticus*) was confined to Farms 2–9. In the central area, the majority of goose bones derived from two large cooking

pits (A10108 and A10545), while the remainder came from two large pits (A10001 and A10004) and the refuse layer. In the settlement area, the goose remains derived from two wells (A12548 and A13239), three pits (A12832, A13155 and A30643) and three pit houses (G105, G101 and G102). The majority of domestic chicken in the settlement area derived from two large wells (A12548 and A13010), five pits (A12620, A12832, A12990, A13155 and A13003) and a pit house (G102). The distribution is summarised in Table 6.6. All parts of the goose and domestic chicken skeleton were represented at the site (Catalogue 1, Tables 3–4). All goose remains except for one subadult bone derived from adult birds, whereas six bones of domestic chicken were from immature birds (pulli (n=2), juvenile (n=3) and subadult (n=1)). One domestic chicken femur from a pit house (G102) contained medullary bone. Of the goose bones, few phalanges and vertebrae (n=5 at Farm 1; n=4 at Farms 2–9) were found intact, whereas other skeletal elements exhibited ancient breakage which have happened on green bone (while still fresh). Domestic chicken bones, in contrast, had a larger proportion of intact bones, 39% (n=12), probably caused by the better preservation in wells as opposed to other feature types. Only few bones exhibited burning, for instance a slightly burnt goose radius from a pit house (G102) at Farm 3 and calcined goose carpal from a cooking pit (A10545) at Farm 1.

Dogs and cats

In total, 18 dog bones were retrieved from the analysed portion and an additional five bones were found during screening of the remaining features. Dog remains occurred in pits and cooking pits within Farm 1 and in one pit house, one posthole, three wells and five pits within the settlement area. All bones were from adult individuals and were found as disarticulated bones with the majority exhibiting ancient as well as modern breakage, but no butchery marks. A few bones exhibited gnawing marks and must thus have been lying exposed on the soil surface, but very little weathering was observed. No measurements from long bones could be obtained to give an estimated height at the withers. However, as judged from the dimensions of the right half of a dog skull from pit A13270, Farms 2–9 (Fig. 6.7), the dog type conformed to the size and morphology of other contemporaneous Late Iron Age dogs. Another crushed anterior part of a dog calvarium, lacking all its teeth and deriving from pit A20394, Farms 2–9 seems to confirm this picture. No special dog types appear to have been present at the site, such as greyhound types or very small dogs, as has been reported from a number of high-status Iron Age and Viking Age contexts (see Hatting 1985; Gotfredsen, forthcoming).

Cats were rare animals at Strøby Toftegård and are represented by a sole bone, an intact right radius, from well A12832 at Farm 4. The well cannot be dated more precisely within the settlement period (AD 650–1000). The

dimensions of the radius were: greatest length (GL): 94.65 mm; proximal breadth (Bp): 5.50 mm; smallest breadth of the diaphysis (SD): 5.44 mm and distal breadth (Bd): 12.73 mm. In general, Late Iron Age and Viking Age cats were small (*cf.* Hatting 1990; Bitz-Thorsen & Gotfredsen 2018). The specimen from Strøby Toftegård is about the length of radii from modern female cats, although more gracile, but it is markedly larger than radii of cats from a Viking Age pit in Odense, reported by Hatting (1990, 189) to be very small, primarily consisting of females and mainly kept for their pelts. Cats at Strøby Toftegård served as pest controls but probably also attributed status to their owners (see Bitz-Thorsen & Gotfredsen 2018).

Pigs

At Farm 1, a total of 26 pig mandibles could be directly attributed to a specific wear stage while 13 had to be indirectly attributed through 'raw counts' and 'final corrected counts'. At Farms 2–9, the number of mandibles directly and indirectly attributed was 19 and six, respectively (see Catalogue 1, Table 8).

The survivorship curves of pigs of Farm 1 and Farms 2–9 are very similar, although some pigs of Farms 2–9 have lived longer than what seems to be the case at Farm 1 (Fig. 6.8). Relatively few suckling pigs, roughly 27.5% at Farm 1 and 24% at Farms 2–9, were slaughtered before they reached the age of 8 months. Juvenile

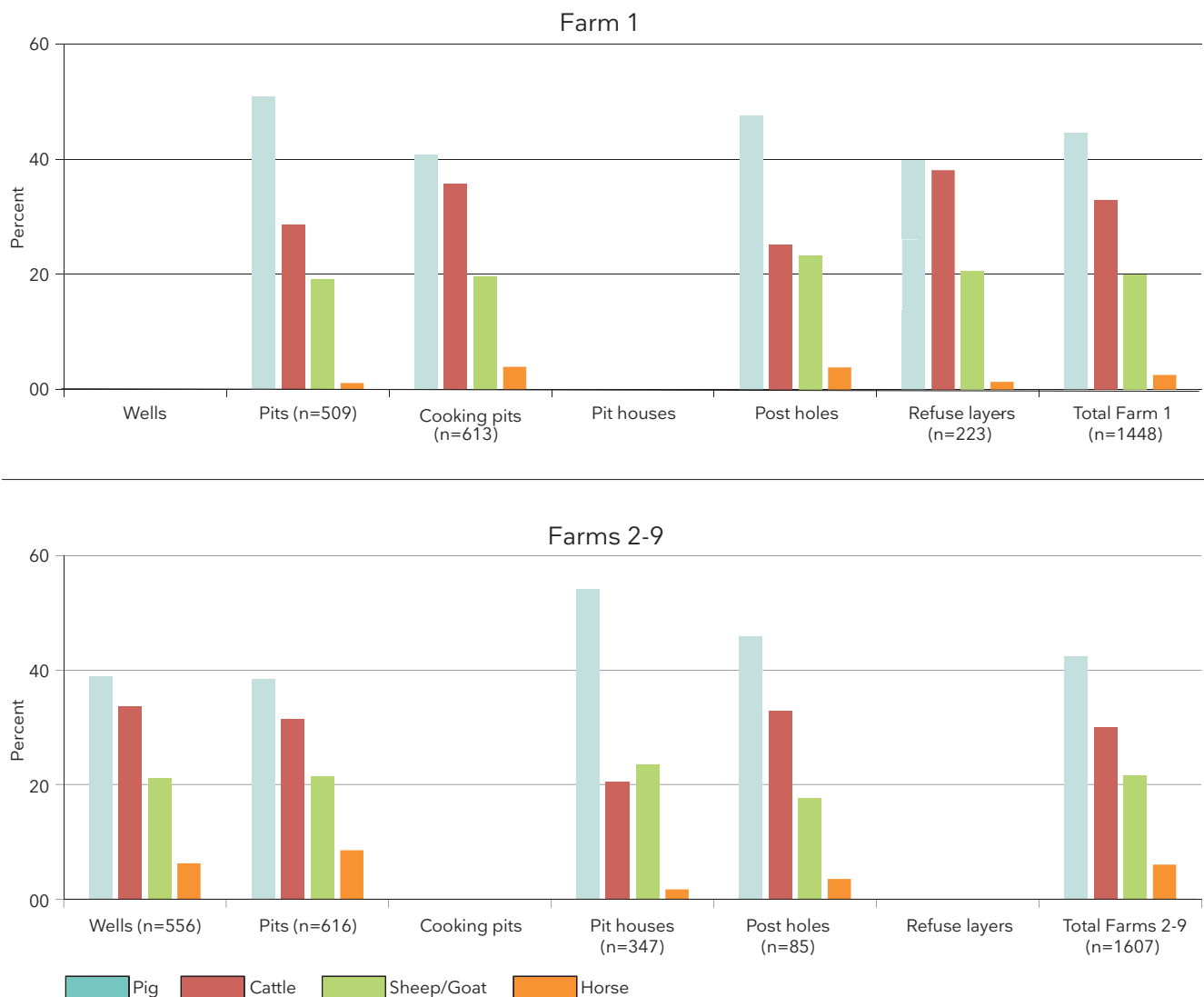


Fig. 6.6. The four important domesticates; pig, cattle, sheep/goat and horse, and their distribution by feature type. Top: Farm 1. Bottom: Farms 2–9. In cooking pit A11411 of the settlement area, Farms 2–9, one cattle bone was recovered which is not shown in the diagram. Data is from Catalogue 1, Table 7 A–B.

pigs under 1.5 year were slaughtered, but a large number of pigs still reached adulthood, *viz.* 56% at Farm 1 and 60% at Farms 2–9. The kill-off pattern based on dental data is by and large reflected in the postcranial material. Such a kill-off pattern would normally indicate that pigs were kept for breeding, especially the portion surviving beyond 5 years of age, and not solely for the production of meat. The observed pattern differs strikingly from the kill-off pattern of the special production area in the northern part of the Fugledegård residence at Tissø, where *c.* 63% of the pigs were killed before they reached an age of 2 years (39% as suckling pigs under 6 months) and with very few individuals reaching an age above 5

years (Gotfredsen, forthcoming; see also Gotfredsen & Thomsen 2011, 218, fig. 5).

The sex ratio differed between the two main areas, with a ratio of males to females being 2:1 for Farm 1 and 1:1 for Farms 2–9 (Fig. 6.9). The preponderance of males at Farm 1 seems to be firmly established since the sex distribution is based on 34 canine teeth. From the age profile and distribution of pig canines, according to sex and age combined, we also see that most of the males, whether boars or castrates, were adult animals (Fig. 6.10, Top). It cannot, however, be established whether the influx of large sized males represents an import from surrounding rural sites or pigs bred at the Strøby Toftegård settlement, or perhaps a combination. In Figure 6.10, Bottom, showing the age attribution on female canines, it is clearly seen that female pigs dominated at Farms 2–9 and that roughly two thirds were slaughtered before they reached the age of 2.5–3 years, whereas a third grew to an older age. Such an age pattern indicates pig breeding, although probably only to supply the settlement and the owner of the central, large longhouses at Strøby Toftegård.

It is suggested that the fodder, perhaps due to a fair amount of sediments, caused heavy attrition on the pig teeth. This may have resulted in a tendency to attribute the Strøby Toftegård pigs slightly older ages than is expected for a meat slaughter pattern. For instance, a right pig mandible (A30173) with dental wear on the first molar, scoring

Table 6.6. The distribution as quantified by NISP of domestic fowl by feature and farm at Strøby Toftegård.

	Goose		Domestic chicken	Total
	Farm 1	Farms 2–9	Farms 2–9	
Wells	0	2	17	19
Pits	4	6	13	23
Cooking pits	14	0	0	14
Pit houses	0	13	1	14
Refuse layers	5	0	0	5
Total	23	21	31	75



Fig. 6.7. From the left-hand side skulls: from a modern female sled dog (K13); from the Iron Age site of Dalshøj, House VI, (Z.M.K. 121/1952); the left-hand side of a dog skull from pit A13270, Farms 2–9 at Strøby Toftegård. Photo: A. B. Gotfredsen.

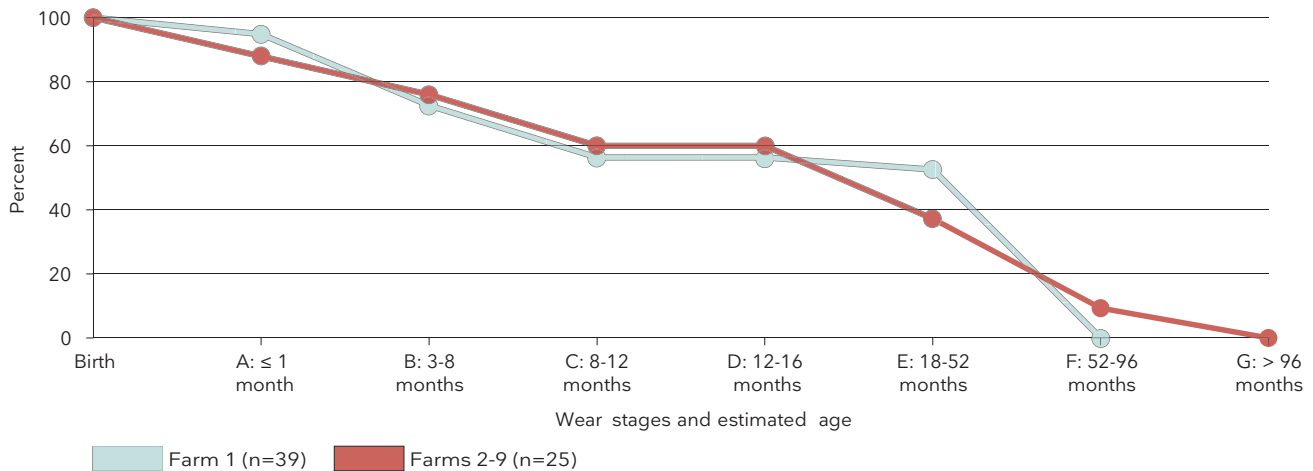


Fig. 6.8. Survivorship curves for pigs at the two main areas at the site of Strøby Toftegård (*Sus sp.*). Data is from Catalogue 1, Table 8.

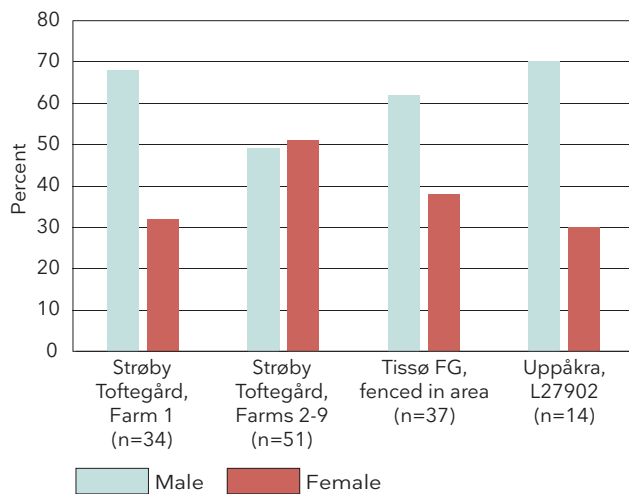


Fig. 6.9. The sex distribution of domestic pigs (*Sus sp.*) at Strøby Toftegård, Farm 1 and Farms 2-9, based on canine size and morphology. For comparison, the distribution from the Fugledegård residence area at Tissø (Gotfredsen, forthcoming) and the stone-packed area (L27902) at Uppåkra (Magnell *et al.* 2013) are shown.

age class 9 (72–96 months), exhibited wear of the second and third molar, which would indicate age class 8 (52–72 months) according to the specific scoring system of Lemoine *et al.* (2014, table 3). Mandibles lacking one or two molars were assigned to very broad age classes, for example 6–8, hence covering estimated absolute ages of 18–30 months, 30–52 months and 52–96 months. Third molars attributed to age class 6–8 showed a very slight wear, suggesting attribution to the younger spectrum, *i.e.* classes 6 or 7 rather than 8. This corroborates the notion that the female canines indicate that roughly two thirds of the female pigs were slaughtered as subadults.

In Anglo-Saxon England, pigs were allowed to roam the woodland from August to December (Albarella 2005b). From both ethnographic and archaeo-zoological sources, this practice typically resulted in a seasonal culling pattern with pigs mostly killed during winter (Albarella *et al.* 2007; Erwynck *et al.* 2007, 179–181), since at that time of year easy access to natural pig fodder ceased (Wilkie *et al.* 2007, 249). In areas not so rich in woodland, pigs could be fed on cereals and legumes and occasionally grazed on pastures (see Albarella 2005b for references). Likely, pigs at Strøby Toftegård were kept and raised at the site and supposedly fed with household garbage and legumes but they may also have been herded to the woods to feed on acorns and beech nuts. In all cases, the heavy wear on the pigs' teeth suggests that the Strøby Toftegård pigs probably, at least during some periods of the year, had the possibility to root and roam freely, perhaps in pastures and wooded areas. Moreover, the distribution on wear stages on pig mandibles, given that these pigs had only one breeding season, seems to point towards a seasonal culling pattern (Fig. 6.11). Apart from some perinatal deaths (age class 1), there seems to be a peak at age class 4 (8–12 months), roughly the animals' first winter, followed by a low in their second summer, at age class 5 (12–16 months), and a peak of subadult pigs in their second and perhaps third winter, although the second peak is obscured by the broad age classes.

A higher relative frequency of males, as observed at Farm 1, is often seen in urban contexts, for example at Birka and the medieval town of Skara (Vretemark 1997; Wigh 2001). Magnell *et al.* (2013, 105) suggest two possible explanations for this pattern: i) the larger need for meat in the towns would lead to a preference for males due to their larger body size, or ii) that males were sold to the town as a surplus while the females stayed at the farms in the countryside for reproduction. Castrated animals grow to an

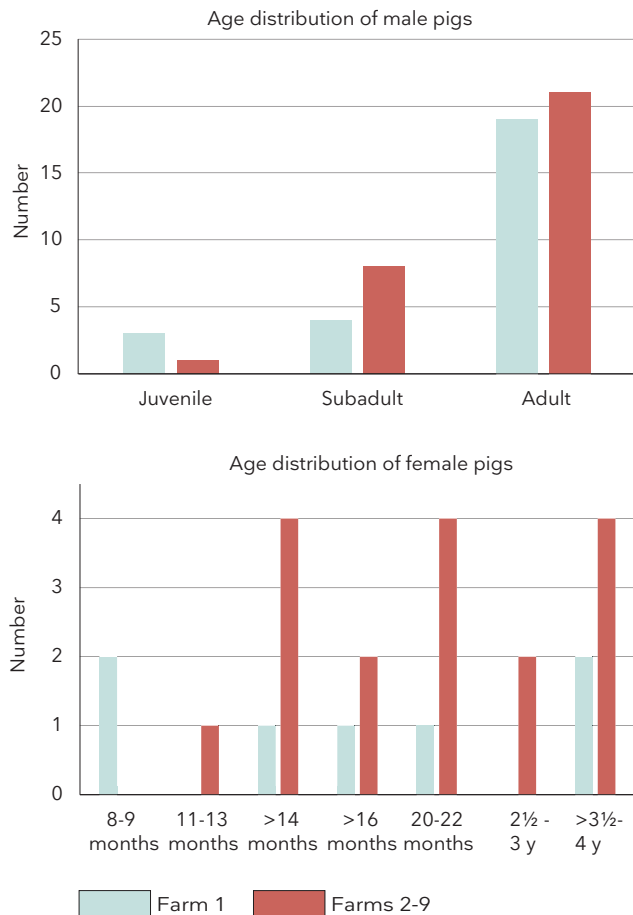


Fig. 6.10. Sex and age distribution of pigs based on canine teeth. Top: Male canine teeth from Farm 1 and Farms 2–9. Bottom: Female lower canine teeth seen from Farm 1 and Farms 2–9. Data from Catalogue 1, Table 9 A–B.

older age until their epiphyses close, hence they grow to a larger body size; in addition, castration may remove the bad taste of the meat from boars. According to Wigh (2001), the optimal age of slaughter for castrated males is around 1.5–3 years. The preponderance of males at Farm 1, combined with a relatively high ontogenetic age at the time of slaughter, may also indicate that large amounts of meat was needed and that castrates and/or males were preferred at Farm 1. None of the examined pig male canines, however, exhibited pathological enamel disturbances related to possible castration, as described by Magnell *et al.* (2013, 105–107).

Cattle

At Farm 1, a total of 19 cattle mandibles could be directly attributed to wear stage, whereas nine had to be indirectly attributed via ‘raw counts’ and ‘final corrected counts’. At Farms 2–9, the numbers were 23 and 10 mandibles, respectively (see Catalogue 1, Table 10). The kill-off pattern in

cattle differed only marginally between the two areas of Farm 1 and Farms 2–9 (Fig. 6.12). The majority of cattle, roughly 75%, were killed before they reached adulthood at the age of 3. Some 20% were killed as suckling calves (0–6 months), whereas the majority were slaughtered at the age of 6–26 months at Farm 1 and at the age of 15–36 months at Farms 2–9. In order to obtain the best meat return from pasture and fodder, a slaughter age at around 2 years of age, typically male animals, is optimal (Legge 1992, 25). Cattle reaching adulthood seem to have lived to a slightly older age at Farms 2–9 than at Farm 1. The survivorship curves clearly show a meat pattern, although some 25% (the adult portion) of the cattle were probably used for secondary products and as beasts of burden. The kill-off pattern based on dental data is by and large reflected in the postcranial material. The kill-off pattern does, in some respects, resemble that seen at the special production area in the northern part of the Fugledegård residence. Here only *c.* 10% of the cattle was older than 3 years, with the majority killed between 15–36 months of age (Gotfredsen and Thomsen 2011, 216; Gotfredsen, forthcoming). This pattern is strikingly different from early urban towns, showing higher frequencies of adult cattle older than 3 years, for instance at Viborg Sønder, *c.* 45% (Enghoff 2005, 248), and at Birka, *c.* 75% (Wigh 2001).

The sex distribution of cattle was difficult to ascertain since only two pelvic bones were assessable; both were from females. Likewise, the number of measurable horn cores and metacarpals were restricted. However, five measured horn cores indicate that three were from cows and two from oxen or bulls (Fig. 6.13). Proportions and dimensions on the metacarpals indicate that both females and males were present and that some may even have been oxen or castrates (Fig. 6.14).

Although the age pattern indicates that beef production was important, cattle at Strøby Toftegård certainly also served other purposes. The measured horn cores found almost exclusively at Farms 2–9 indicated the presence of oxen (castrated bulls), presumably used as beasts of burden. Two metacarpals, one from the culture layer (A10059, Farm 1) and one from the latrine pit (A31003, Farm 8), had broadened medial condyles. Moreover, two metatarsals, one from well A13984, on the boundary between Farms 1 and 3, exhibited *exostosis* on the diaphysis and one from a pit (A13996, Farm 1) had an extremely broad medial condyle and much *exostosis* on the cranial and caudal face of the distal part of the diaphysis (Fig. 6.15). Posterior as well as anterior first phalanges exhibited *exostosis* and broadening of the proximal articular surface with occurrence of lipping stages 2 and 3, according to the definitions by Bartosiewicz *et al.* (1997) (Table 6.7). Further, *exostosis* distally, peripherally was seen on one posterior first phalanx, lipping stage 2 (A30173), from Farm 1, and one anterior first phalanx,

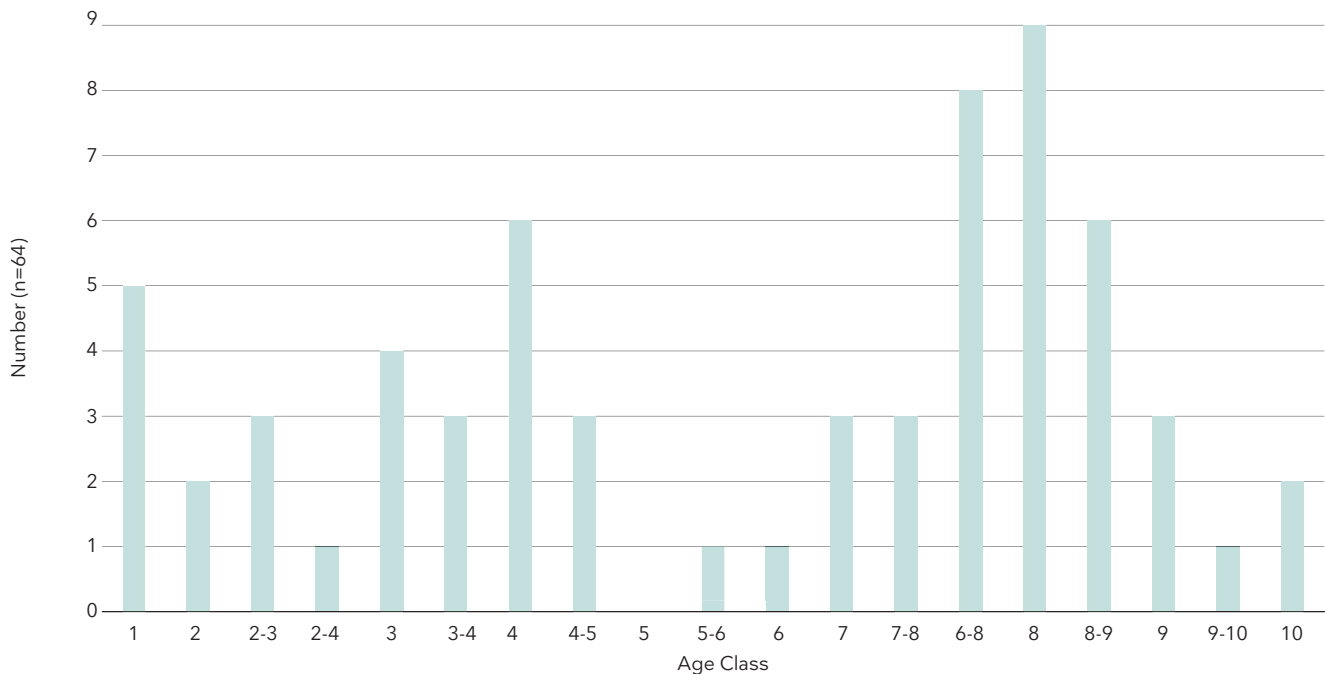


Fig. 6.11. Distribution of age classes of pigs according to Lemoine et al. (2014, Table 3) based on pig mandible eruption and wear patterns for Farm 1 and Farms 2–9 combined. The age estimated teeth and mandibles are arranged according to 10 specific age classes as defined by Lemoine et al. (2014, Table 7): 1: ≤ 1 month; 2: 3–5 months; 3: 6–8 months; 4: 8–12 months; 5: 12–16 months; 6: 18–30 months; 7: 30–52 months; 8: 52–72 months; 9: 72–96 months; 10: > 96 months. Total number of assessed pig mandibles are 64.

lipping stage 3 (A12515), from Farm 4. In addition, three second phalanges from Farm 1 exhibited lipping stage 2. Altogether, this documented that at least some cattle served as draught animals. Lipping and especially exostosis on distal limbs can be linked to old age of the animal (see Johannsen 2005). However, at Strøby Toftegård few cattle grew to an old age and the observed bone modifications are most likely an indication of cattle having served as beasts of burden, a practice also documented at other high-status sites, such as Fredshøj and the Tissø-complex (Gelskov 2015; Gotfredsen, forthcoming). In addition, three horn cores from a pit house (G102), a pit (A12990) and a well (A13884) exhibited cut or chop marks resulting from the skinning process and possible use of the horn.

The heights at the withers, as calculated from the greatest length (GL) of metacarpals ($n=6$), varied between 103 and 122 cm, and of metatarsals ($n=4$) between 100 and 115 cm, the mean being 113 cm. At the contemporaneous Tissø site, cattle size based on 13 metacarpals varied between 101 and 115 cm with a mean of 110 cm. This is very much in accordance with other known Viking Age and early medieval cattle heights, including Haithabu ($n=695$), with a mean of 109 cm and a variation between 89–126 cm (Johansson 1982), and Ribe ($n=22$), with a mean of 112 cm and a variation between 101–122 cm (Hatting 1991).

Sheep and goats

At Farm 1, 19 ovicaprine mandibles could be directly attributed to wear stage, whereas 13 had to be indirectly attributed through ‘raw counts’ and ‘final corrected counts’. At Farms 2–9, the numbers were 21 and four mandibles, respectively (see Catalogue 1, Table 13). The kill-off pattern of sheep and goats reflects primarily sheep husbandry on the site since goat bones occurred in very scarce numbers (see below). The survivorship curves from Farm 1 and Farms 2–9 are very much alike, with the same tendency as for pigs and cattle, with some individuals at the settlement area living to an older age than at the central area. At Farm 1, 82% of the sheep were slaughtered as young animals under 3 years with most being killed at the age of 1–1.5 years and 2–3 years, respectively, but not as very young lambs. In the settlement area, around 79% of the sheep were slaughtered before they reached 3 years of age, whereas the proportion surviving to an older age was slaughtered at an older age than the sheep at Farm 1 (Fig. 6.16). The kill-off patterns resemble the ‘meat curve’, as described by Payne (1973), but with a slightly larger proportion of adult sheep. The group of sheep being killed after they had reached adulthood points to a mixed use of sheep as providers of meat as well as wool. The latter is supported by the presence of loom weights and some spindle whorls found at Farm 1 (mostly in pits)

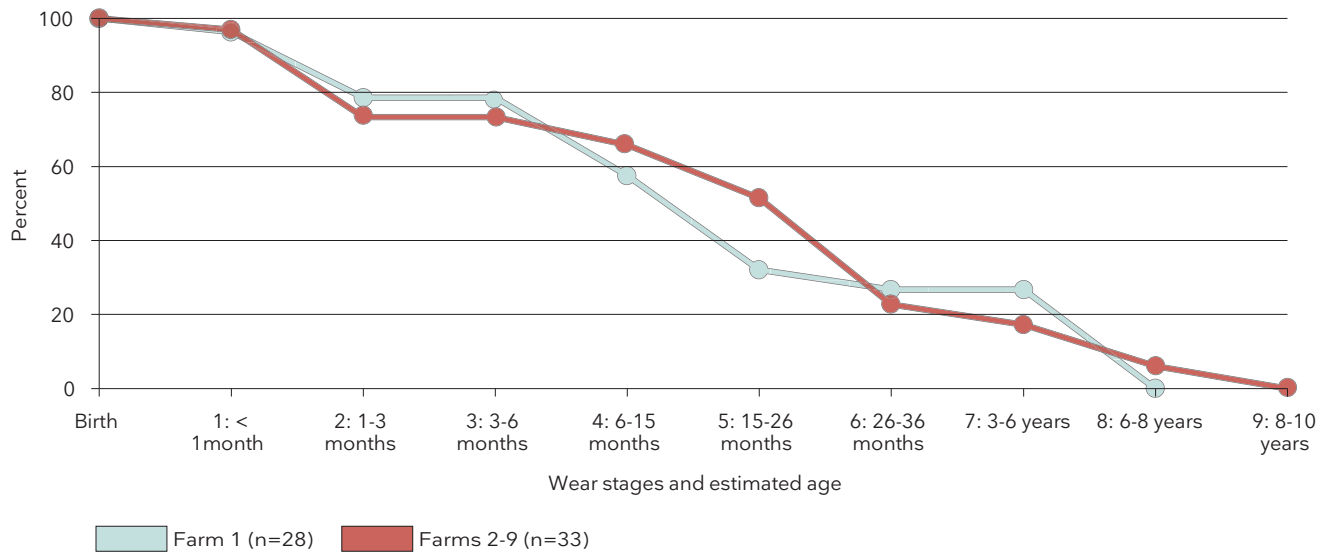


Fig. 6.12. Survivorship curves for cattle at the two main areas at the site of Strøby Toftegård (*Bos taurus*). Data is from Catalogue 1, Table 10.

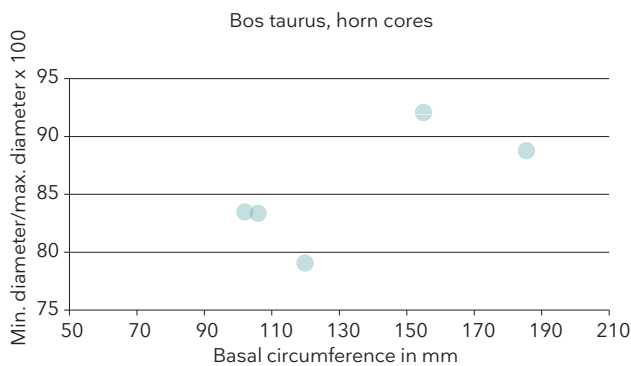


Fig. 6.13. Bivariate plot showing the measurements of cattle horn cores from Strøby Toftegård. Definitions of measurements are after von den Driesch (1976). The indices minimum diameter/maximum diameter $\times 100$ plotted against basal circumference. Data from Catalogue 1, Table 11.

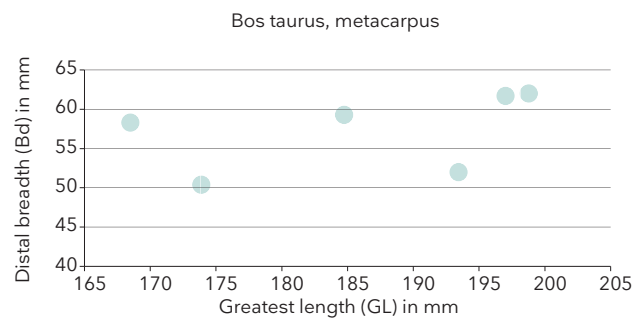


Fig. 6.14. Bivariate plot showing measurements of cattle metacarpals from Strøby Toftegård. Definitions of measurements are after von den Driesch (1976). The distal breadth is plotted against the greatest length. The two specimens in the upper right-hand corner of the plot are most likely oxen (castrates). Data from Catalogue 1, Table 12.

as well as at Farms 2–9 (mostly in pit houses) (M. Kildetoft Shultz, pers. comm. 2017). The observed kill-off pattern is very different from the milk curve, *sensu* Payne (1973), since few very young lambs were killed. However, there may be a taphonomic bias against very fragile lamb jaws, especially at Farm 1 where attrition of the bone assemblage was severe.

The kill-off pattern for the Strøby Toftegård sheep is comparable to the pattern seen at Tissø within the above-mentioned special production area in the northern part of the Fugledegård residence. Here, 68% of the sheep were killed before adulthood, which indicates an emphasis on meat consumption (Gotfredsen, forthcoming, see also Gotfredsen & Thomsen 2011, Fig. 5, 218). However, for the pooled assemblages of sheep in the large pit house of FG-A1 and the special production area, a pattern very much

like the one at Strøby Toftegård was observed (Gotfredsen, forthcoming). The early urban sites of Viborg Sønder sø and Birka show a kill-off pattern emphasising meat production and or consumption (Wigh 2001, 88–91; Enghoff 2005, 251, Fig. 13). The Ribe emporium, on the other hand, produced a kill-off pattern very much like the one seen at Strøby Toftegård, especially at Farms 2–4, which is thought to reflect meat production as well as sheep kept for wool production (Enghoff 2006, 173).

The heavily fragmented pelvic bones offered no opportunity to assess the sex distribution of the ovicaprine material. However, a few horn cores, all deriving from Farms 2–9, could be sexed. Pit A12832 contained a right horn core from a female goat and well A13984 a left frontal bone with a horn core from a male goat. Posthole A13455 (House 67) included a right frontal bone with a horn core from a ram, whereas the remainder could not be



Fig. 6.15. Cattle from Strøby Toftegård. From the left: metatarsus (well A13984) exhibiting exostosis along the shaft; metatarsus (pit A13996) with a very broad medial condyle and exostosis; metatarsus (A20394) with a slight broadening of the medial condyle; metacarpus (latrine pit A31003) with broad condyles. Photo: A. B. Gotfredsen.

sexed. It was not possible to tell whether the horn cores were deliberate deposits in the posthole. None of the horn cores exhibited cut marks. Besides the aforementioned two horn cores of goat, one additional humerus from an adult individual, found in well A13984, could be reliably identified to goat. Due to the scarceness of goat remains, as demonstrated by a sheep to goat ratio of 18:1, goats were rare at Strøby Toftegård or at least were kept only on a very small scale.

Horses

A total of 134 horse remains were recovered of which the majority, in terms of actual numbers as well as relative frequencies, derived from Farms 2–9 (see Table 6.5, Fig. 6.6). Cranial and postcranial parts from meat-bearing as well as meatless skeletal parts occurred in both areas (Catalogue 1, Table 16 A–D). At Farm 1, the proportion of analysed feature types holding horse remains constituted 38% of the pits, two thirds of the culture layers, 23% of the cooking pits and c. 8% of the postholes. Most of the bones from the central area derived from two features, namely the cooking pits A10292 (n=6) and A10783 (n=14). At Farms

Table 6.7. Survey of the lipping stages of first phalanges of cattle from Farm 1 and Farms 2–9 in accordance with Johannsen (2005). Totals also include phalanges that could not be identified to either anterior or posterior.

Lipping stage phalanx 1	Farm 1			Farms 2–9		
	Anterior	Posterior	Total	Anterior	Posterior	Total
1	2	1	4	1	3	5
2	2	0	2	0	1	3
3	0	0	0	0	1	1
4	0	0	0	0	0	0

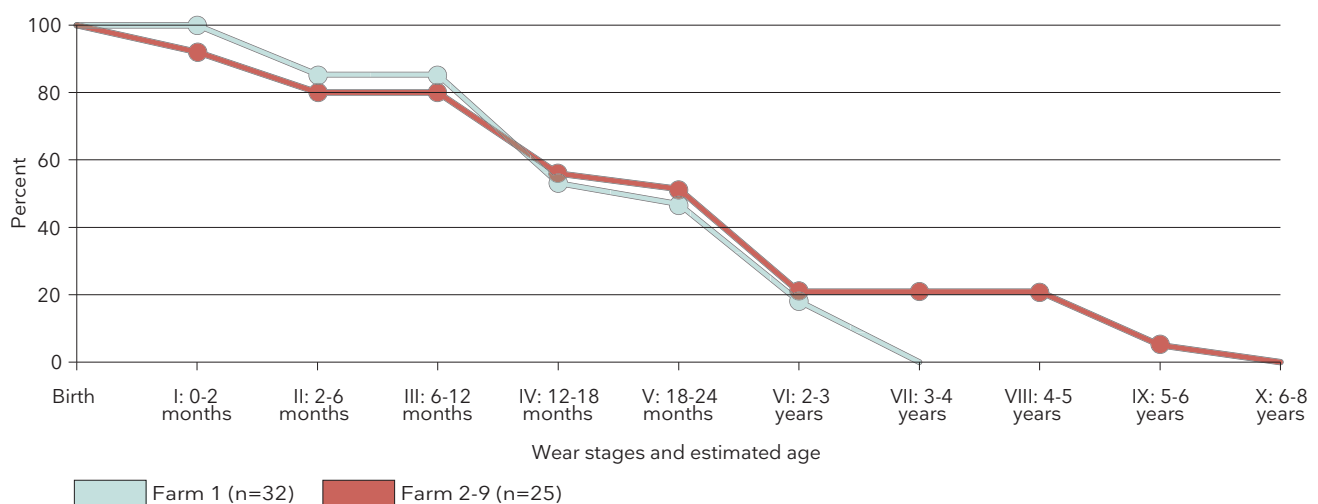


Fig. 6.16. Survivorship curves for sheep and goats at the two areas at Strøby Toftegård (*Ovis aries*/*Capra hircus*). Data is from Catalogue 1, Table 13.

Table 6.8. Features including horse remains and their relative frequency by feature type, within Farm 1 and Farms 2–9, respectively.

Farm 1			Farm 2–9	
		% Feature		% Feature
Wells			A11750; A11800; A12548; A13010; A13230; A13231; A13219; A13984	89
Pits	A10001; A10004; A10458	38	A12620; A12832; A12990; A13155; A13996; A20394	60
Cooking pits	A10049; A10053; A10120; A10292; A10545; A10783	23		
Pit houses			A11724; A12050	67
Postholes	A10158; A10180; A10714; A11715	8	A11387; A13247; A13276	5
Refuse layers	A10034; A10059	67		

NISP_{horse} = 37 at Farm 1; NISP_{horse} = 97 at Farms 2–9. Farm 1: pits (n=8); cooking pits (n=26); postholes (n=53); refuse layers (n=3). Farms 2–9: wells (n=9); pits (n=10); pit houses (n=3) postholes (n=56).

2–9, the proportion of the analysed feature types holding horse remains constituted 60% of the pits, two thirds of the pit houses, *c.* 89% of the wells and 5% of the postholes (Table 6.8). Hence, horse bones did not occur with equal frequency in all context types but were typically found in large pits and wells, in contrast to the other domesticated mammals used for consumption, which to a higher degree ended up in pit houses and, not least, cooking pits. At Farm 1, however, the majority of horse remains ended up in cooking pits.

The horse remains occurred as isolated bones except for a few occurrences of articulated carpal and tarsal bones and a metatarsal articulating to phalanx 1 and phalanx 2. Aside from carpals, tarsals and some metapodials, the horse remains were heavily fragmented due to fracturing of green as well as dry bone. Spiral fractures, most likely resulting from marrow extraction, were observed on several of the meat-bearing long bones at Farm 1 and Farms 2–9. In cooking pit A10783, Farm 1, one astragalus exhibited cut marks, one pelvic bone chop marks ventrally, and a diaphysis fragment of tibia exhibited chop marks. At Farms 2–9, fragments of radius and humerus exhibited spiral fractures, a proximal ulna and a distal part of tibia exhibited heavy impact scars, and a thoracic vertebra exhibited cut marks ventrally. Altogether, the treatment of horse bones summarised in Table 6.9 indicates that horses were butchered and, although evident filleting and scrape marks resulting from scraping off meat were lacking, people most likely consumed horsemeat at Strøby Toftegård. Very few bones showed evidence of burning; only seven bones exhibited light burning and two were carbonised.

The age distribution of horses differs from the age profiles of pigs, cattle and sheep by exhibiting a larger proportion of fully grown or even aged individuals (Fig. 6.17 and Catalogue 1, Table 14). Still, at Farm 1, posthole A10158 included a right mandible of a 6–12 months old foal, pit A10001 a maxillary bone with deciduous premolars of a colt aged 1–2 years and pit A10458 a right maxillary of a

2–2.5-year-old colt. At Farm 4, pit A13155 yielded a right mandibular dp2 from a foal aged 6–12 months and well A13230 an oral part of a mandible from a *c.* 3.5–4.5-year-old mare. From well A13231, Farm 5, an intact metacarpus derived from a colt younger than 12–15 months, according to fusion data from Habermehl (1975). The sex distribution could not be established since a juvenile mare (well A13230), an adult mare (pit A13155) and an old stallion (pit A12620) were the only sexed individuals.

In total, very few intact horse long bones could be measured. The estimated withers heights were, from well A13230: 125 cm (right metatarsal), 133 cm (left metatarsal) and 134 cm (left metatarsal); from well A13984: 147 cm (left metatarsal), and finally from pit A13155: 123 cm (left radius) (Catalogue 1, Table 15). The horses from the Ladby Ship burial, dated to *c.* AD 950, were reported to have an estimated shoulder height of 125 cm to 145 cm (Degerbøl 1957, 119). The horses (n=8) at Trelleborg, dated to *c.* AD 1000, varied between 133–149 cm with a mean of 140 cm, whereas horses found at the slightly earlier Tissø site (n=9) varied between 128 cm and 140 cm with a mean of 134 cm (Gotfredsen, forthcoming). Recently, Kveiborg & Ritchie (2013) reported large horses up to 151 cm at the withers from Viking Age contexts at Trelleborg Enge. Horses at the trading site of Haithabu varied between 120 cm and 142 cm, the majority falling within 128–136 cm (Hüster 1986). The few measurable long bones (n=5) at Strøby Toftegård give a considerable size variation on estimated withers heights 123–147 cm (Fig. 6.18), but they seem to be in accordance with other Germanic Iron Age and Viking Age finds.

The fragmentation pattern and butchery traces observed on horse remains at Strøby Toftegård resemble those observed on horse bones at the contemporaneous Tissø site and the somewhat earlier Uppåkra in Scania (Svensson 2004, 15; Gotfredsen, forthcoming). No skates or worked horse bones were observed, which is rather a contrast to the

Table 6.9. Survey of the average occurrence of butchery marks and their distribution on the four major domesticated taxa observed at Farm 1 and Farms 2–9, respectively.

Taxon	Farm 1						Farms 2–9						
	CM	ChM	IS	SF	Total	% NISP	CM	ChM	IS	SF	Total	% NISP	Total site
Pig	6	4	0	2	12	4.00	21	5	0	1	27	6.03	5.40
Cattle	10	10	5	5	30	10.14	16	10	1	9	36	9.84	10.00
Sheep/goat	2	0	1	4	7	7.70	6	2	3	2	13	5.35	6.00
Horse	1	2	0	1	4	13.30	1	2	1	1	5	6.10	8.00

CM=cut mark; ChM=chop mark; IS=impact scar; SF=spiral fracture. NISP counts from Catalogue 1, Tables 5–6. The percentage was calculated based on NISP counts except for teeth.

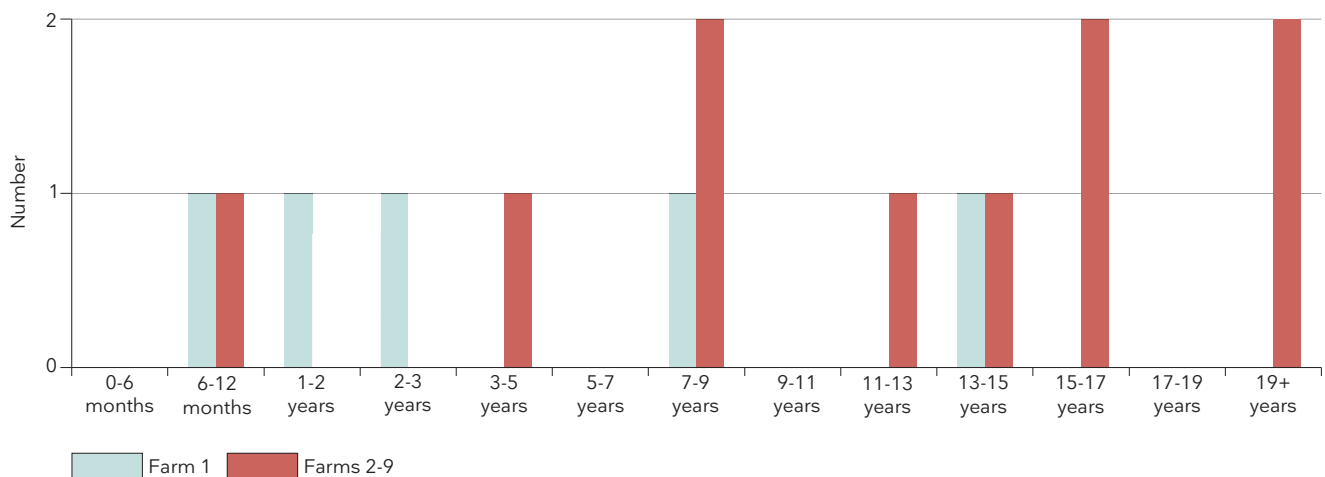


Fig. 6.17. The age distribution of horse (*Equus caballus*) as distributed across Farm 1 and Farms 2–9. Data from Catalogue 1, Table 14.

situation at the contemporaneous trading site of Ribe, where more than a third of the horse bones comprise metapodials which have been cut and are thus regarded as waste from comb production (Enghoff 2006, 176). Furthermore, 57 skates were reported to have been made of horse metapodials and radii at Haithabu (Hüster 1986, 44). The percentage of horses on the Strøby Toftegård site is within the range of contemporaneous settlements. It is striking, however, that young individuals below 5 years of age, as estimated from skulls and mandibles with teeth *in situ* and isolated teeth, amounts to a third (five out of 15). Similar age distributions are seen at, for instance, rural sites and strongholds and may be an indication that horse breeding took place (*cf.* Hüster 1986, 24). At the 9th to 10th century Slavonic stronghold of Groß Raden, Gehl (1981) concluded that a relative frequency of 35% young horses, that is, animals under the age of 5, strongly indicated that horse breeding took place. Altogether, the age structure, butchery pattern as well as disposal practices at Strøby Toftegård are very similar to the patterns observed at the Tissø-complex (Gotfredsen, forthcoming).

The domestic livestock skeletal part distribution by feature type

In general, bones from the head (skull and mandible) and from the extremities (carpals, metacarpals, anterior phalanges, tarsals, metatarsals and posterior phalanges) are considered to be of low value in terms of meat and thus to constitute primary butchery waste. The meat-bearing skeletal elements comprise the breast (sternum), axial skeleton (vertebrae, including costae, scapula and pelvis), the upper foreleg (humerus, radius and ulna) and the upper hind leg (femur, tibia and fibula). Even so, as stated above, a sharp distinction between consumption waste and primary butchery waste is perhaps not so straightforward. Bones of low meat value may still represent consumption, with, for instance, tongue and brain of the skull and marrow of the mandible. In addition, lower leg bones containing marrow have nutritional value. In this study, the skeletal profiling is thus shown by skeletal element instead of combining the elements into body parts (Figs 6.19 A–D and Catalogue 1, Tables 16 A–D). This provides a better resolution of the data in order to pinpoint and interpret the observed patterns.

In general, bones from the head (excluding loose teeth) dominate in all context types for the four domesticated animal species, with the mandible being the most frequently occurring element. Still, it is also evident that the remaining skeletal elements of all species, especially meat-bearing portions such as scapula, the stylopodium (humerus and femur) and the zygapodium (radius and ulna and tibia), are relatively more strongly represented compared to skull elements in wells and pits within the settlement area (see Figs 6.19 A–B). This, moreover, seems to differ from the observed pattern in cooking pits and pits at Farm 1 (see Figs 6.19 C–D). In both areas, the disposed animal remains consisted primarily of butchery and consumption waste, as opposed to primary butchery waste only. This is also evidenced by the domesticated taxa exhibiting unequivocal butchery marks at about the same relative ratios at Farm 1 and Farms 2–9, respectively (see Table 6.9). However, features at Farms 2–9 also contained other kinds of disposals, such as primary butchery waste from the autopodium (tarsals, metatarsals and phalanges), a higher number of complete bones and special deposits (see below).

In both areas and in all structure types, the axial elements such as vertebrae and sacrum and, in addition, the sternum and ribs are heavily underrepresented. Although some vertebrae and ribs are ‘hidden’ among the bones, grouped as Ungulata sp., this low representation of bones, that have thin bone walls and a large proportion of cancellous tissue can also be caused by the aforementioned taphonomic factors such as burning, trampling, weathering and, not least, intense utilisation due to butchery. The high frequency of skull bones, specifically within the cooking pits, is most likely due to the intense use of the area around these pits. The exact function of the cooking pits is uncertain (Kildetoft Schultz, Chapter 4), but they seem over time to have been gradually filled up with material from the culture layer of the area. A fairly large proportion of the bones from the cooking pits was burnt to various degrees and may have been thrown onto the bonfires before eventually ending up in the cooking pits, together with cooking stones and charcoal (see Table 6.3). Still, a larger proportion of the bones from Farm 1 compared to Farms 2–9 showed weathering, indicating that some leftovers from meals have been lying on the soil surface for perhaps a prolonged period prior to deposition. However, the intense use and the burning of some of the bones have probably caused the observed distribution pattern where mainly durable bone elements survive, that is, bones with a high bone density (see Fig. 6.19 C).

The faunal remains of the postholes were too sparse to be used for calculating %MAU values. Postholes from the large longhouses, Farm 1, provided a bone assemblage ($n=101$) of pig, cattle, sheep or goat and horse. The majority of skeletal elements comprised isolated teeth, whereas the remainder were mainly parts of meat-bearing sections of the animals, such as the front-leg (scapula, humerus and radius)



Fig. 6.18. Metatarsals from horses with estimated withers heights between 125 cm and 147 cm from Strøby Toftegård. From the left-hand side: three metatarsals of well A13230 and one from well A13984. Photo: A. B. Gotfredsen.

and the hind-leg (femur and tibia), besides ribs and thoracic and lumbar vertebrae. Several of the bones exhibited cut marks and ancient fragmentation. Only A10160 and A10162 (House 1), A10273 and A10400 (House 2), A10692 (House 4) and A10241 (House 5) provided burnt fragments.

Postholes from a number of different buildings ($n=18$) of Farms 2–9 included bones from the above-mentioned domesticates ($n=86$). Again, the assemblage was dominated by loose teeth, maxillary and mandible fragments, whereas the remainder constituted bones from meat-bearing portions with ancient fragmentation and butchery marks. Only A11014 and A12487 (House 50) and A13833 (House 82) provided burnt bones. In postholes from both areas, a substantial number of the bones were from juvenile and sub-adult animals. Altogether, most of the bones recovered from postholes appear to be leftovers from meals. It is, however, difficult to assess whether the animal bones are remains from the actual period of use of the houses or whether they have ended up in the context resulting from later activities (see Beck, Kildetoft Schultz and Tornbjerg, Chapter 1).

Identification of special animal-bone deposits on the site

In order to identify disposal patterns at Strøby Toftegård, the various features were searched for special deposits, such as articulated portions of elements, such as part-skeletons and partial or whole skulls; the so-called ABGs (Associated Bone Groups) (for further definitions, see Hill 1995; Morris 2008). The ABG is immediately identified as a carcass or portion of a carcass that was not fully processed for food or

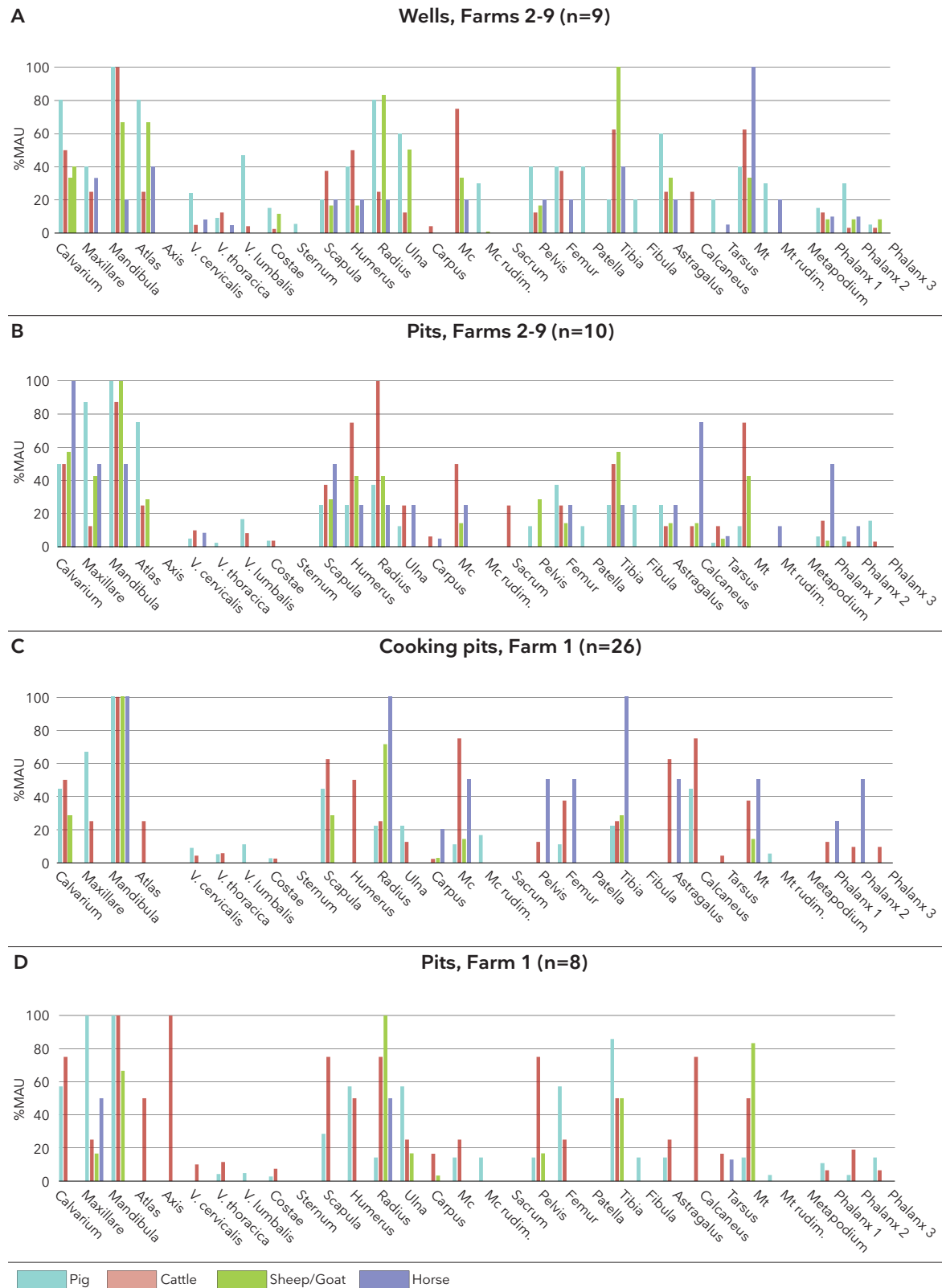


Fig. 6.19 A–D. The %MAU (Minimum Animal Unit) giving the relative representation of the various skeletal elements of pig, cattle, sheep/goat and horses. A) the total number of bones from wells at Farms 2–9; B) the total number of bones from pits at Farms 2–9; C) the total number of bones from cooking pits at Farm 1; D) the total number of bones from pits at Farm 1. Mc=metacarpal; Mt=metatarsal. Data from Catalogue 1, Tables 16 A–D.

Table 6.10. Survey of ABGs (Associated Bone Groups) as distributed across Farm 1 and Farms 2–9, taxon and skeletal part. Details on skeletal elements, age, sex and preservation conditions are given in Appendix 1.

Farm	Dating (AD)	Feature	Feature type	Taxon	Body part	Age
5	Late Iron Age (650–1000)	A 13270	Pit	Dog	skull	adult
2	Late Iron Age (650–1000)	A 20394	Pit	Dog	skull	adult
3/4	Viking Age	A 13010	Well	Pig	hind foot	subadult
4	Late Iron Age (650–1000)	A 12990	Pit	Cattle	mandible	juvenile
8	Viking Age	A 30634	Pit	Cattle	mandible	juvenile
5	Viking Age	A 12548	Well	Cattle	skull	adult
5	Viking Age	A 12548	Well	Cattle	mandible	juvenile
6	Late Iron Age (650–1000)	A 12620	Pit	Horse	skull	adult
4	Viking Age	A 13155	Pit	Horse	maxillary bones	adult
1/3	Late Iron Age (650–1000)	A 13984	Well	Horse	skull	adult
1	Viking Age	A 13996	Well	Horse	mandible	adult
1	Late Iron Age (650–1000)	A 10158	Posthole	Horse	mandible	juvenile

raw materials to be used in manufacturing (*cf.* Pluskowski 2012, 2). Much focus has been on deposits in wells or deep shafts, but other places have also been discussed, such as discrete groups of bones in buildings or other structures, adjacent to defence works or other boundaries (for further references, see Maltby 2012, 152). As previously stated the vast majority of the animal bones at Strøby Toftegård were heavily fragmented due to butchery of the carcasses, subsequent segmentation and marrow fracturing of bone elements. Pig bones, for instance, were highly fragmented, with no intact skulls, mandibles or long bones recovered. Only long bones from neonatal or very young pig, containing no marrow, were intact. Moreover, pig bones largely occurred disarticulated as isolated bones. Therefore, whole skulls and part-skeletons with intact bone elements found in anatomically correct position were rare incidents at Strøby Toftegård. However, a few ABGs deserve mentioning (Table 6.10).

A few occurrences of ABGs were located in features at Strøby Toftegård, all deriving from either pits or wells at Farms 2–9, with the sole exception of a young horse mandible in posthole A10158 at the southern entrance of House 1 (Farm 1). Horse skulls, or large parts of skulls, occurred in three instances, whereas an additional anterior part of a cattle skull and two parts of dog skulls were retrieved. Articulated parts of animals include a pig's left hind foot and a few joints of lower extremities of the slaughtered animals, mostly horses, the latter regarded as primary butchery waste (not shown in Table 6.10). The skulls may have been subaerially exposed for some time since they have all suffered tooth loss prior to deposition, and some of them were slightly weathered, except for the two maxillary bones in pit A13155. The exact stratigraphic position of the skulls could not be ascertained in all cases; however, the

horse skulls in pit A12620 and well A13984 were placed close to the bottom layers of the structures.

This is all in accordance with deposition patterns observed in other contemporaneous wells, well-like structures or pits from the southern area of the Tissø site and at the landing site of Dalby Hals, which is connected to the Tissø complex (Gotfredsen *et al.*, forthcoming; Holst *et al.*, forthcoming). A well-like structure at the southern area of the Tissø site contained several horse calvaria (all lacking their mandibles) of which some seemed to have been deposited after lying or hanging exposed for a prolonged period. At the ring fortress of Trelleborg, 10th century sacrificial wells included whole skeletons of a dog and a goat, a cattle skull, a few portions of articulated limbs of horse and cattle together with skeletons of children – all placed near the bottom of the structures (Nørlund 1948; Gotfredsen *et al.* 2015). The sacrificed animals and children at Trelleborg were interpreted as possible communion offerings (Gotfredsen *et al.* 2015). At Strøby Toftegård, however, this may not be the case. Still, the placing of skulls in pits, some of them very deep, may have had a ritual meaning and may have been carried out in connection with the delimitation of defences or outer boundaries of the site. Interestingly, the above-mentioned structures with horse skulls at Tissø were found in the southern area of Tissø where trading and commerce took place, as well as at the landing site of Dalby Hals, and *not* centrally at the Fugledegård residence.

Strøby Toftegård in context

The species list, especially the wild birds and mammals, point to an open landscape with woodland and marshes surrounding Strøby Toftegård. These habitat types were also indicated by the presence of grains from barley, wheat

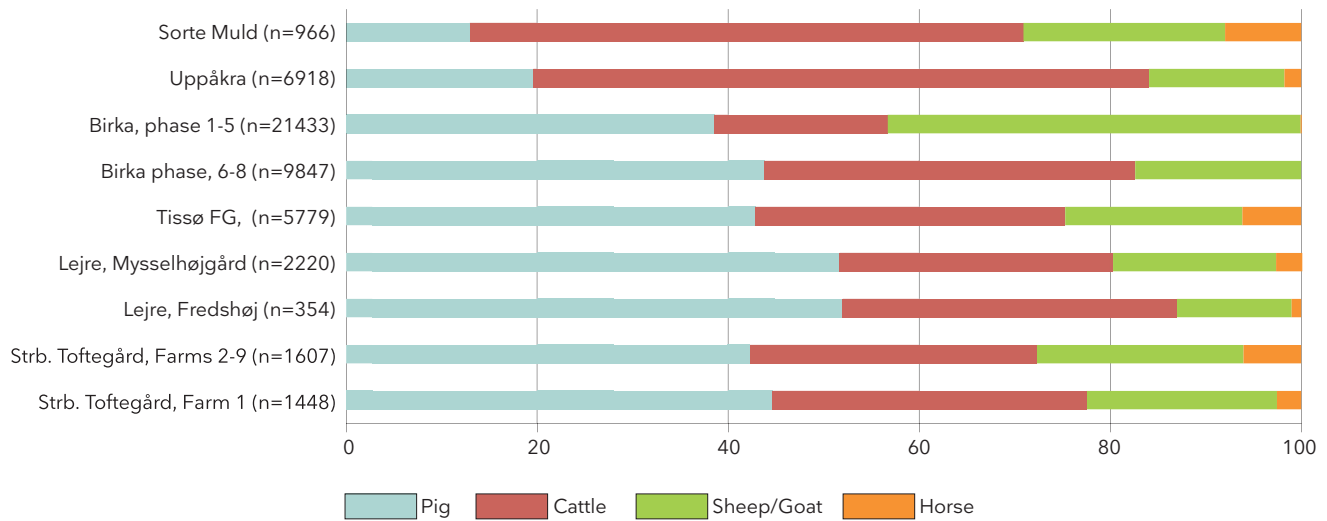


Fig. 6.20. The relative distribution of the four main domesticates based on NISP of Strøby Toftegård Farm 1 and Farms 2–9 compared to roughly contemporaneous sites from present-day Denmark and Scania. Sorte Muld 3rd–6th century AD (Møhl 1957); Uppåkra 5th–6th century (Magnell *et al.* 2013, Catalogue 1); Birka, phase 1–5: mid-8th–mid-9th century; Birka phase 6–8: mid-9th–10th century (Wigh 2001, Tables 3 and 10); Tissø, Fugledegård residence (FG) 7th–10th century (Gotfredsen & Thomsen 2011; Gotfredsen, forthcoming); Lejre, Fredshøj c. 6th century AD (Gelskov 2015, 472); Lejre, Mysselhøjgård 7th–11th century (Christensen 1991).

and oats together with a variety of weed seeds from open habitats. Further, pollen from plants thriving in pasture fields were found in some of the analysed structures (see Henriksen and Mortensen, Chapter 5). This type of landscape with good pastures would favour cattle husbandry, which was seen to be significant for the Strøby Toftegård settlement and the central farm. Pigs and sheep or goat played a role, too, primarily as meat producers, whereas horses were kept for riding but were also occasionally consumed.

Pig consumption at Strøby Toftegård

Pigs are kept for their meat. They produce large litters and are fast growing, which makes them ideal animals to be used for the production of meat for feasts, because large quantities can be produced in relatively shorter time spans than with sheep or cattle (*e.g.* Albarella and Serjeantson 2002). Pigs were certainly slaughtered for festive events and often the young and tender piglets were selected, signifying wealth and surplus (see Magnell and Iregren 2010, 232; Gotfredsen and Thomsen 2011). We should thus expect a high frequency of pigs at cult houses and ceremonial places, as was seen at, for instance, the Uppåkra ceremonial house in contrast to other contexts at the Uppåkra site (Magnell *et al.* 2013, 95). The high-status Viking Age elite residences at Tissø and Lejre also showed a preponderance of pigs, whereas cattle were the predominant species at, for instance, the high-status Iron Age sites of Sorte Muld, Eketorp and Uppåkra. This apparent discrepancy between high-status sites from the Iron Age and Viking Age, respectively, may be explained by a general trend over time towards an increase in the exploitation of pigs as

opposed to cattle (see *e.g.* Wigh 2001, 102). The distribution seen in Figure 6.20 thus probably reflects temporal as well as functional trends. The dominance of pigs at Strøby Toftegård is in line with frequencies seen at the contemporaneous Fugledegård residence at the Tissø site, whereas the early and late high-status residences at Lejre, Fredshøj and Mysselhøjgård, show slightly higher frequencies of pigs, comprising c. 52%.

Large quantities of intensively used pig bones combined with evidence from kill-off patterns and a large proportion of males being slaughtered indicate that large amounts of pork were consumed at Farm 1. It is tempting to suggest that this may have taken place in connection with feasting involving the cooking pits and being hosted by the owner of the manor. Horsemeat was probably also consumed at Strøby Toftegård. The combination of these two species, pig and horse, often constituted the *blót* meals (Nilsson 2009, 86). It is, however, notoriously difficult to recognise the dispersed remains of ritual feasting, since any division between profane and ritual consumption is very difficult to ascertain (see also Lauwerier 2004, 67; Pluskowski 2012, 3).

The significance of hunting and high-status markers on the site

The sparse number of remains from terrestrial game, including hare, roe deer and red deer, found scattered in different contexts documents that occasional hunting took place. The presence of grey seal indicates that the sea was not far away, and this is in accordance with trace amounts of sea mammals with grey seal or unspecified seal reported from Fredshøj and the Tissø-complex (Gelskov 2015; Gotfredsen, forthcoming).

Furthermore, high-status markers including large birds such as grey heron, whooper swan and white-tailed eagle together with birds of prey, namely harrier and buzzard, indicate high-status activities at the site. Interestingly, most of the above-mentioned species were confined to the settlement area, which may seem to contrast with the presence of 58 arrowheads, presumably for hunting, and a number of other high-status items found at Farm 1 (see Beck and Kildetoft Schultz, Chapter 2; Baastrup, Chapter 7). Moreover, it also stands in opposition to the expectation, mentioned earlier in this study that most high-status markers would show up on the central farm. However, as previously pointed out, the bone material was more fragmented and of a poorer preservation at Farm 1 than in the rest of the settlement, which may explain the overall higher species diversity linked to the latter. One additional explanation may be that the cooking pits, primarily found at Farm 1, reflected mere consumption whereas wells, pit houses and various pits in the settlement area represented more diverse activities, including the disposal of animal parts used for tools and purposes other than food. There was no indication of fur production, although the least weasel may have been caught for its fur, nor was there any evidence of comb production since very little worked antler and bone was retrieved. The very low incidence of wild mammal game is in accordance with observations from similar and contemporaneous high-status Scandinavian sites. The Iron Age site of Uppåkra in Scania produced few bones of game animals (<0.5% of all bones) (Magnell *et al.* 2013, 96), and so did the early phase of the elite residence of Fredshøj at Lejre (Gelskov 2015), the late phase of Mysselhøjgård (< 1.5%) (Christensen 1991, Catalogue 1) and the Fugledegård residence and associated pit houses at Tissø (< 0.5%) (Gotfredsen, forthcoming). The owner of the Strøby Toftegård manor may have hosted hunting parties going to the woods, probably on horseback and perhaps assisted by dogs. At least some of the horses at the site were tall and impressive creatures. However, the dogs at Strøby Toftegård were typical Late Iron Age and Viking Age middle-sized dogs and not large greyhound type hunting dogs.

Concluding remarks

The domesticated animals were first and foremost kept for their meat although some animals were kept for breeding. Roughly, 25% of the cattle grew to an older age than was optimal for slaughter and some of these show signs of having been used as beasts of burden. The demographic profiles of pig suggested that some local pig breeding took place. Sheep husbandry was aimed at meat consumption but with some additional wool production.

The outcome of the archaeo-zoological analyses does not sustain a very clear-cut division between which activities took place at the central area with the large longhouses and

which activities took place in the surrounding settlement area. Still, in some aspects, the central farm revealed a strong consumption signal from the cooking pits, with an age and sex pattern of pigs resembling that of early urban contexts. The slaughter of large numbers of animals, especially pigs, documents that large quantities of pork, beef and mutton were consumed at the site. The high-status signatures amongst the avian and wild mammalian species deriving from the settlement area indicate that Strøby Toftegård was a seat of power and that people of high status were present there. The species diversity, the age profiles of important meat-producing domesticates and the lack of clear evidence of fur or tool production documented at Strøby Toftegård differ from the distribution patterns seen at emporia and trading sites but bear resemblances to other contemporaneous high-status sites on Zealand and in Scania.

Appendix 1

Description of ABGs (Associated Bone Groups) from Strøby Toftegård of the domesticates: dog, pig, cattle and horse, including information on skeletal element, age, sex, preservation condition and when information was at hand on the stratigraphic position within the particular feature. (See Beck & Kildetoft Schultz, Chapter 2 for further details on the archaeological features).

Dog, farm 2–9

Pit A13270: a right half of a dog skull with teeth *in situ*.

Pit A20394 O: an anterior part of an adult dog skull lacking part of the neurocranium (brain case) with ancient as well as modern fragmentation and lacking all of its teeth. Dated to the Viking Age.

Pigs, farm 2–9

Well A13010: a left hind foot represented by nine bones (astragalus, calcaneus, metatarsal II, III, IV and V, tarsal IV+V, one phalanx II and one rudimentary phalanx) from a subadult pig, which may have been thrown articulated into the well.

Cattle, farm 2–9

Pit A12990: an intact right juvenile mandible of an approximately two months old calf.

Pit A30634: an intact left juvenile mandible (x1196) of a less than two months old calf, found at a mid-level (50–60 cm), the pit being 124 cm deep. Dated to the Viking Age.

Well A12548: the anterior part of an adult cattle skull with the viscerocranium (facial part) being present and the posterior part of the neurocranium (brain case) missing. The skull was heavily fragmented due to post depositional breakage. Two

upper isolated left teeth (P4 and M1) may derive from the calvarium. The right maxillary bone exhibited faint 10 mm long cut marks whereas the left maxillary bone exhibited clear 2 mm long cut marks resulting from the skinning process. The skull was not weathered, however, most of the teeth were apparently missing and it may have been sub-aerially exposed for some time prior to deposition.

Well A12548: an intact right juvenile mandible of an approximately two months old calf, found in the upper layer.

Horse, farm 1

Posthole A10158 (house 1): an almost intact right mandible with modern breakage from a c. 7-month-old colt (see Catalogue 1, Table 14). The posthole is situated adjacent to the southern entrance of house 1. It, cannot, however, be ascertained whether the mandible was intentionally deposited in the posthole (A.S. Beck, pers. comm. 2017). Dated to the Viking Age.

Horse, farm 1

Pit A12620: the main part of a horse skull. What could be reassembled from the crushed skull were; from the left-hand side the premaxillary bone with the first and third incisor and the caninus *in situ*, the main part of the maxillary bone with the premolars P2, P3 and P4 *in situ* and roots of the first molar M1, from the right-hand side parts of the premaxillary and maxillary bones and two loose premolars P2 and P3. Moreover, parts of the orbita, frontal, parietal and temporal bones were present. The skull derived from a c. 22 year old stallion, as estimated from wear on the incisors (see Catalogue 1, Table 14). The left caninus exhibited dental caries attack. All breakage of the calvarium seems to be of recent origin, that is, to have happened during recovery. Some teeth especially from the right side were missing and may have been lost during excavation; at least the left M1 exhibited modern breakage of the roots left in the tooth socket. Other teeth may have been lost prior to deposition. It could not be ascertained whether the skull have been placed shortly after slaughter or have been sub-aerially exposed for some time prior to deposition. The missing teeth may be an indication of the latter suggestion. The skull had most likely originally been placed intact (or nearly intact) at the bottom of the pit, since it derived from the lower layers.

Pit A13155: two maxillary bones from the same individual. The left maxillary bone had P2-M2 *in situ* and the right maxillary bone had P2-M3 *in situ*. No additional calvaria fragments were identified from the pit. Still, modern breakage on the maxillary bones may indicate that a larger part of the skull may originally have been present. The maxillary bones represented a c. 11–13 years old mare (Catalogue 1, Table 14).

Pit A13996: (bordering farm I) a left horse mandible of an adult c.13–15-year-old horse (Catalogue 1, Table 14). The mandible was probably collected from the surface of the pit, since the pit was recognised but not excavated (A.S. Beck, pers. comm. 2017).

Well A13948: the main part of a horse skull from an adult individual. The skull was heavily crushed with only post depositional dry breakage observed, presumably inflicted during retrieval. The caudal part of the neurocranium and the teeth were missing. The teeth were presumably lost prior to deposition since no additional loose horse teeth were recovered from the context, except one superior M1/M2 from an aged individual (20+ years) (Catalogue 1, Table 14) which may derive from the calvarium. The skull was situated close to the bottom (3/4 distance below the top layer) and may have been lying or hanging prior to deposition, although the bone surface seemed not to be heavily weathered.

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Metal finds from Strøby Toftegård – networks, cult and everyday life

Maria Panum Baastrup

Abstract

This article concerns the metal items from Strøby Toftegård, which are primarily metal-detector finds. The metal objects from the site concentrate especially on the Late Germanic Iron Age and the Viking Age, although both earlier and later items also feature. The level of activity on the site seems to increase around the transition between phases IC and ID of the Late Germanic Iron Age, and this level is maintained throughout the Viking Age. The inventory ranges all the way from standardised ‘everyday jewellery’ to rare imports of very high quality, from melted lumps of metal to weights, and it includes a large number of arrowheads that were presumably intended for hunting. Based on an evaluation of the collected objects, this is the site of a magnate farm of high social standing. The locality was central in terms of the cultic activities of the Late Iron Age, and the influential people at Strøby Toftegård were part of an elite network with international affiliations. They had the skills, the contacts and the will to obtain items of rare kinds, while the activities that took place at the locality also involved ‘ordinary people’, whose presence is reflected in the substantial amount of standardised jewellery.

Keywords: Late Iron Age, Viking Age, metal-detector finds, unique specimens, networks, high-status activities, *guldgubber*, cult

The metal objects from Strøby Toftegård were found during the period of 1994–2013. They are primarily metal-detector finds, but some finds were also made in connection with soil sieving. Sizeable tracts of the excavated area – 482 m² of ploughed soil and cultural layers – were sieved in sections of square metres. This approach has yielded not only many metal finds, but also pieces of glass, pottery and bones have been unearthed in great numbers. Currently, the site is actively cultivated as farmland.

The finds from the Late Iron Age, including the Viking Age, are in focus and constitute the majority, but of course finds from other periods were also made. Thus, metal finds from a Bronze Age urn burial are presented in connection with the other finds from the site, since five, possibly six,

urn burials (graves A–E, A10293) from the Late Bronze Age were found here.

Typology and dating

Unless otherwise stated, Karen Høilund Nielsen’s (1987) typology and phases will be used for finds from the Late Germanic Iron Age. This typology is based on an adjustment of the work of Mogens Ørsnes from 1966 on the basis of finds from Bornholm. Karen Høilund Nielsen operates with eight phases instead of Ørsnes’ three main phases, but, in most cases, the relevant type designations for the kinds of jewellery items present at Strøby Toftegård are the same for both systems. For trefoil brooches, Birgit Maixner’s



Fig. 7.1. Seven of the eight guldgubber from Strøby Toftegård (cat.nos 1–7). Photo: Jens Olsen, Museum Southeast Denmark.

typology (2005) is used with references to other relevant works (e.g. Petersen 1928; Klæsøe 1999); for Viking-Age oval brooches, Jan Petersen's types (1928, 12 ff.); for Viking Age round brooches Jansson's work (1984a; 1984b) is used; for Viking Age circular pendants, the typology developed by Johan Callmer (1989) is used; and for Viking Age equal-armed brooches, Callmer (1999) and Petersen (1928) are used. For arrowheads, Erik Wegraeus (1973) is used.

Stylistically speaking, Ørsnes' (1966) definitions are used for the different styles of south Scandinavian animal ornamentation (B, C, D, E and F) of the Late Germanic Iron Age, and for the Viking Age, the traditionally employed stylistic phases are used (see Klæsøe 2002 with references). Moreover, comparative studies of Danish and European material constitute the foundation for the treatment of the finds.

Below, objects that can be categorised as 'commonly occurring' will be presented with just a type designation, such as 'beak brooch belonging to Karen Høilund Nielsen's type G2', while more unusual pieces will be discussed in-depth. Furthermore, information about the shape and date of the various items is listed in the catalogue, which is organised in accordance with the order in which the different types of objects are presented below. The Catalogue can be accessed online here: <https://natmus.dk/cultsites/>. For reasons of terminology, please note that the Viking Age is regarded here as the last part of the Iron Age – thus, the designation 'Late Iron Age' also covers the Viking Age.

Presentation of the finds

The metal objects that are presented here include so-called *guldgubber* or gold-foil figures, jewellery, ornamental fittings, weapons, horse-riding equipment, hacksilver, weights and bars. Additionally, there is a summary discussion of production waste and melted metal. In total, 403 catalogue entries are included.

Objects from across the site are presented together, according to type, and their composition and character are subsequently discussed. For some of the items, it is not

possible to group them with any particular type due to their degree of fragmentation. Because of this, a category labelled 'indeterminable fittings or jewellery items' is included, which contains the objects that cannot be classified more specifically.

Guldgubber or gold-foil figures (cat.nos 1–8)

Some of the items from Strøby Toftegård that have attracted a great deal of attention are the *guldgubber* that were found here (Fig. 7.1).

In total, eight *guldgubber* with different motifs were found, of which six (cat.nos 1–6) are so-called *doublegubber*. S. Å. Tornbjerg (1998a, 227) emphasises that the *guldgubber* from Strøby Toftegård are linked to those from Lundeborg in Funen, since the double motifs are overrepresented here, too. In contrast to this, *guldgubber* with single motifs dominate at Sorte Muld in Bornholm. Moreover, the motifs on the *doublegubber* from Strøby Toftegård show, as do the ones from Funen, a male person on the left and a female person on the right. These *doublegubber* are the only specimens of this type that have been found in Zealand.

Cat.no. 7 is a *guldgubbe* depicting a single person. It is rectangular in shape, the upper edge is rounded and the sides folded. The figure on this *guldgubbe* is looking to the left and may be holding up a drinking horn in its right hand. Cat.no. 8 is simpler. This is a trimmed, band-shaped *guldgubbe*, with legs and belt indicated. A precise dating of the *guldgubber* from Strøby Toftegård is not possible as the finds from this site indicate activity from the mid-6th century until the turn of the first millennium (Tornbjerg 1998a, 227; 1998b, 12 ff.).

Jewellery (cat.nos 9–147) (Fig. 7.2)

The oldest item in this group of metal finds is a copper-alloy double button (cat.no. 9), which was found in an urn (grave B) dated to the Late Bronze Age. Double buttons of a similar design are known from, for instance, Lyshøj (Jørgensen & Petersen 1998, 49).

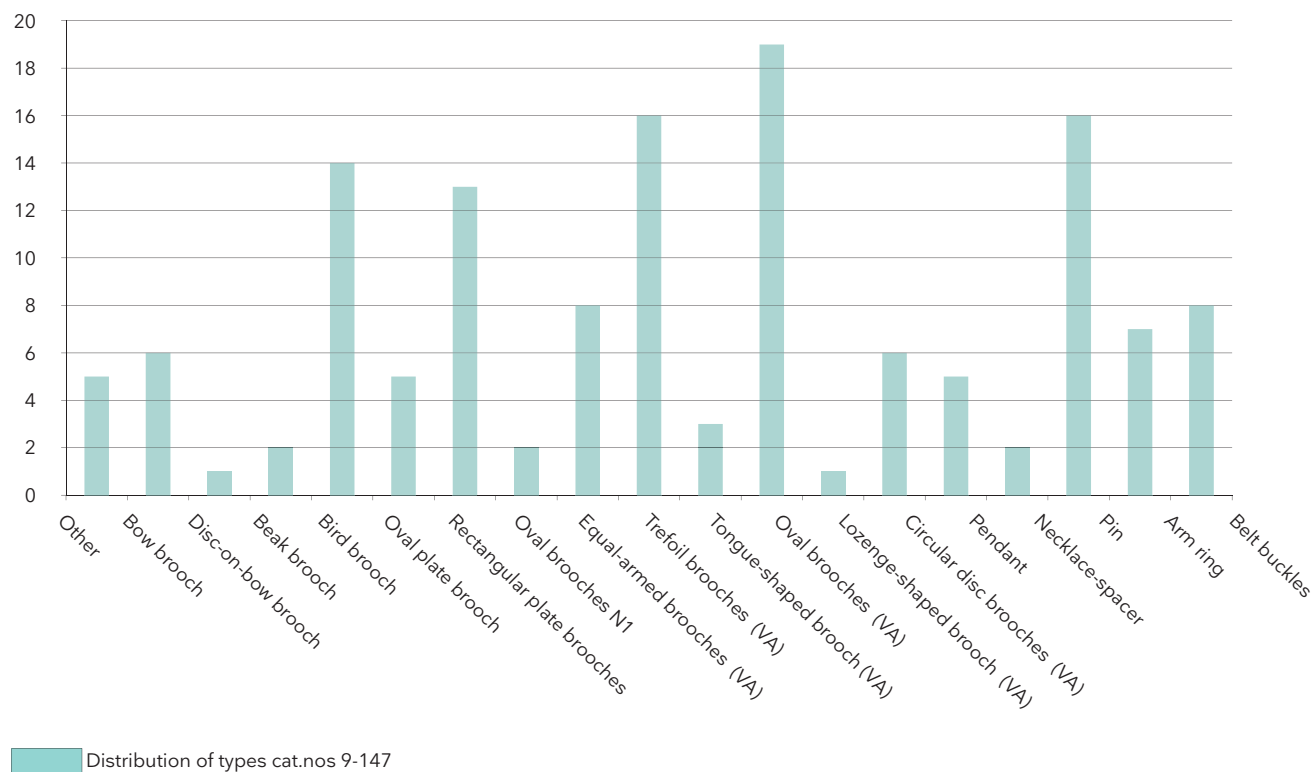


Fig. 7.2. The metal inventory of Strøby Toftegård categorised according to type, cat.nos 9–147. The numbering of figures follows the order used in both catalogue and text.

Cat.nos 10–15 are different kinds of brooches. Cat.nos 10 and 11 are copper-alloy bow brooches from the Roman Iron Age, cat.no. 12 is a copper-alloy bow brooch from the Late Germanic Iron Age, as is probably cat.no. 15, which is probably the head plate of a sheet-metal brooch made of copper alloy. Cat.nos 13 and 14 cannot be dated more specifically than to the Iron Age or Late Iron Age, respectively; both are bow brooches made of iron.

Cat.no. 16 is a severely fragmented disc-on-bow brooch from the Late Germanic Iron Age. Cat.nos 17 and 18 are both beak brooches (e.g. Hårdh 1999; Høilund Nielsen 1987, 76–77), also from the Late Germanic Iron Age. Cat.nos 19–32, which are all bird brooches, constitute a larger group of Late Germanic Iron Age brooches. Cat.nos 25 and 26 stem from the same brooch, and cat.nos 29 and 30 likewise belong together. This group spreads out across several of Høilund Nielsen's types (1987, 76). Cat.nos 33–37 are oval plate brooches, also from the Late Germanic Iron Age. Of these, cat.no. 37 is, however, somewhat uncertain. Unlike the remaining oval plate brooches, which are made of copper alloy, this is a small fragment of silver and presumably decorated with an animal head; the shape of it appears to indicate that this is an oval plate brooch.

Cat.nos 38–45 are rectangular plate brooches that fall into Høilund Nielsen's (1987, 77) types Ka1-b from the

Late Germanic Iron Age. Probably also belonging to the group of plate brooches are cat.nos 46–47, which presumably come from the same one plate brooch(?) with folded edges – an item that may be of a slightly bigger type than the just-mentioned rectangular plate brooches. Cat.nos 48–49 are likewise fragments that probably belong to the group of Late Germanic Iron Age plate brooches, and the same goes for cat.no. 50, for which, however, a broader dating cannot be excluded. The group of brooches dated to the Late Germanic Iron Age closes with cat.nos 51 and 52, which are oval brooches of Høilund Nielsen's type N1.

Cat.nos 53–60 are all equal-armed brooches from the Viking Age. These show great variation and both the 'small' specimens (e.g. cat.no. 54 from Callmer's (1999) Valsta group) and the 'large' equal-armed brooches (e.g. cat.no. 56) are represented. Cat.nos 57 and 58, which are two pieces of the same brooch (Fig. 7.3), belong to the large equal-armed brooches. This item is atypical in its design, is heavily cast, has clear remains of gilding and is decorated with, among other things, masks.

Another heavily cast fragment, which is also misshapen because of exposure to heat, cat.no. 61, may also belong with some of the 'large' Viking Age brooches, because the item (keeping in mind the uncertainty caused by deformation



Fig. 7.3. Cat. nos 57–58 are two pieces of the same brooch. The item is very unusual and sturdy in its design. Here, the two pieces are placed together. Photo: Jens Olsen, Museum Southeast Denmark.



Fig. 7.5. Cat. no. 104 is one of the circular disc brooches. This one is decorated with two opposing animal profiles in Jelling-style. Photo: Jens Olsen, Museum Southeast Denmark.

and fragmentation) may have been part of a so-called hilt-shaped brooch (e.g. Klæsøe 2005, 6–7).

More numerous are the Viking Age trefoil brooches (e.g. Maixner 2005): cat. nos 62–77, which are mainly fragments. Cat. nos 62–68 are decorated with elements in Borre-style, cat. nos 69–73 are all decorated with acanthus-like elements, of which cat. nos 71 and 72 belong to the same piece, and cat. nos 74–76 have a more geometrical ornamentation. Cat. no. 77 carries a very strict, geometrical division of the decorated surface (Fig. 7.4). The item is fragmented and it cannot be determined with certainty whether this was originally a trefoil or a tongue-shaped brooch. The decoration is atypical and has no obvious parallels among the two mentioned brooch types.



Fig. 7.4. Cat. no. 77 (left), which is very unusual in its strict geometrical design, next to cat. no. 78, which is of a 'classic' design for a tongue-shaped brooch – of Borre-style and with a clear animal head at the point. Photo: Jens Olsen, Museum Southeast Denmark.

Tongue-shaped brooches comprise cat. nos 78–80, of which the first two carry Borre-style decorations, whereas the third has a more simple, geometrical zigzag ornamentation. Cat. nos 81–99 are oval brooches from the Viking Age and are heavily fragmented. They span several types, but especially the types JP37, JP51 and JP55 (Petersen 1928, 12–75) seem to be represented in this material. On a few of them, textile imprints are visible on the back side. Cat. no. 100 is an openwork, lozenge-shaped brooch with Borre-style decoration.

Circular disc brooches (e.g. Jansson 1984a; Svensson 2001; Paterson 2002; for a discussion of more recent finds and production-related aspects, see also Kleingärtner 2007 and Kershaw 2009) comprise cat. nos 101–105. The items either find close parallels in Jansson's groups I, III and IV, or they belong to these groups (Fig. 7.5). Cat. no. 105 is very damaged, but probably belongs to the group of small, circular disc brooches. One item, however, which clearly belongs with the large, circular disc brooches of the Viking Age, is cat. no. 106 (Fig. 7.6). The brooch is solidly cast, well preserved and decorated with Borre-style animal art. On the back, the item has a preserved eyelet of metal thread. The brooch belongs to Jansson's (1984b) type I, with pure animal art, and he dates large, circular brooches of this type to the 10th century on the basis of material from Birka.

In terms of their shape, the circular pendants, which are often equipped with barrel-shaped eyelets, strongly recall the small, circular disc brooches. There are two specimens from Strøby Toftegård, cat. no. 107 made of copper alloy is decorated with spiral ornamentation and cat. no. 108 made of silver carries interlacing patterns. The former belongs to Callmer's (1989) group A, variant 1, and the latter belongs to group A, variant 2. Cat. no. 108 is misshapen due to exposure to heat, and the eyelet is only partially preserved.



Fig. 7.6. Cat.no. 106 a heavily cast, circular disc brooch. It is decorated with complex animal art and is – in spite of the many metal-detector finds made across the country – still a rare sight. Photo: Jens Olsen, Museum Southeast Denmark.



Fig. 7.7. Cat.no. 109 – a Thor's hammer of silver. This is the only metal item from the site that can be unequivocally interpreted as an amulet. Photo: Jens Olsen, Museum Southeast Denmark.

A pendant of a completely different type is cat.no. 109, which is shaped like a Thor's hammer and made of silver (Fig. 7.7). It is the only item of metal jewellery that can be unequivocally interpreted as an amulet (for a discussion, see *e.g.* Pedersen 2004, 66; Zeiten 1997, 25 ff.). The hammer head is edged with slightly concave surfaces, and the eyelet for fastening is ball-shaped but worn flat on one side – probably from hanging around the neck of its owner for many years. A cross is cut where the handle meets the head. When this type of pendant occurs in Denmark, they are often regarded as 10th century items, although they do also occur in both earlier and later periods (Zeiten 1997, 25; see also Pedersen 2004, 67).

Cat.no. 110 is a square 'pendant' made of a copper-alloy sheet and has a ribbon-shaped eyelet. Its function and date are unclear – it may be the back side of a pendant which, in terms of its shape, corresponds to the so-called 'bag-shaped pendants' (*e.g.* Nielsen & Bastrup 2011), although this piece seems rather thinly bulked.

Cat.no. 111, which is presumably from the Viking Age, is a rectangular pendant made of gilt copper alloy and carries 'dissolved' animal ornamentation.

Two fragments of necklace-spacers are of an earlier date (cat.nos 112 and 113), from the Late Germanic Iron Age, and both are decorated with animal art and interlacing.

Cat.nos 114–129 are pins of varying types and degrees of preservation. A few of them (*e.g.* cat.no. 119) are relatively classic and may have been parts of Late Iron Age penannular brooches. Some of the pins are simple and made of thick threads of copper alloy with a folded part (*e.g.* cat.no. 115), but the majority of specimens in this group are somewhat 'nondescriptive'.

Cat.no. 130 consists of copper-alloy band-shaped thread rolled up into a spiral, which may have functioned as a kind of pendant. Similar items are known from Viking Age burial contexts from, for instance, Birka and Kaupang (see *e.g.* Arbmman 1940/43, Taf. 113, 12; Blindheim *et al.* 1981, Pl. 79, f2; see also Kivikoski 1973, Taf. 5, Fig. 36).

Cat.nos 131–133 are fragments of arm rings from the Late Germanic Iron Age, Høilund Nielsen's type Q3b, that is, rings with much-expanded end points. Cat.no. 134

is presumably of the same type, but the item is severely damaged. It is, moreover, of a much smaller size – perhaps for a child?

Cat.nos 135–137 may also be arm rings. The first of these is twisted, while the other two are more band shaped. Cat. no. 136 is decorated with stamped, oval shapes and dots, and this type is broadly dated to the Late Iron Age.

Cat.no. 138 is a fragment of a stamp which was probably used for making circular disc brooches (e.g. Jansson 1984a), an interlaced decoration can be discerned. The original diameter of the piece was approximately 29 mm.

Cat.no. 139 is a rectangular brooch made of lead and with a slightly domed middle (Fig. 7.8). The item, which



Fig. 7.8. Cat.no. 139 is a rectangular brooch made of lead. Brooches made of this material are seldomly found in the Danish area. Photo: Jens Olsen, Museum Southeast Denmark.

is equipped with a pin on the back, appears to be of a Continental type belonging to the 9th and 10th centuries (see examples in Frick 1992/93, 453, Kat.nr. 31, 74). This type of brooch sometimes occurs in England, where they are made of lead (J. Kershaw pers. comm.). The item from Strøby Toftegård thus has both a shape and a material that points to origins abroad. Although lead brooches are rare in Danish contexts, there are Scandinavian parallels to the rectangular shape where especially the slightly domed bow in the middle is evident. Examples of Scandinavian parallels include items from Lerchenborg in Denmark (Wamers 2005, 114), Birka grave 606 in Sweden (Arbman 1940/43, Taf. 83:1a-b) and Lammøen in Norway (Petersen 1928, 91 Fig. 81).

Cat.nos 140–147 comprise various simple belt buckles, most of them with a D-shaped or approximately D-shaped frame. The majority are made of iron and are rather nondescript. This makes it impossible to date them within a narrow frame since, theoretically, they could have been produced at any given point between ancient and modern times.

Ornamental fittings (cat.nos 148–174)

Cat.nos 148 and 149 are two ornamental silver fittings that probably stem from a hanging bowl whose origins lie in the Insular area (Baastrup 2010). They are dated to the period of 750–830. Cat.no. 148 is oblong and probably functioned as a bucket mount, while cat.no. 149 may have been an ornamental fitting placed at the bottom of the bowl (Fig. 7.9). Cat.no. 150, an oblong and much heat-affected



Fig. 7.9. Cat.nos 148–149 from Strøby Toftegård. It is fair to assume that these two silver fittings come from a hanging bowl of Anglo-Saxon origin. Photo: Jens Olsen, Museum Southeast Denmark.



Fig. 7.10. The Carolingian silver fitting, cat.no. 152, which has been reworked into a pendant. Photo: Jens Olsen, Museum Southeast Denmark.

piece of silver, may have been part of the same bowl. A small inlay of stone and glass can be discerned on this item, corresponding to the animal eyes on cat.nos 148–149. Moreover, the shape of the item seems to suggest that it may have had the same shape as cat.no. 148. Similar fittings are known from a hanging bowl from the River Witham, Lincolnshire (see *e.g.* Graham-Campbell 2004). This Anglo-Saxon work from the 8th century, which has now been lost, is decorated with comparable animal-shaped mounts, that ‘bite into’ the edge of the bowl. Although this bowl has been lost, woodcuts and watercolours depicting it exist, which makes it possible to compare it with the fittings from Strøby Toftegård.

Another item that has been imported from the Insular region is cat.no. 151. This is an elongated fitting made of copper alloy and decorated with interlacing as well as animal-like band-shaped elements. It was likely riveted onto the edge of a bowl and its dating corresponds to those of cat.nos 148–149, although the pieces do not come from the same object.

Cat.no. 152 was imported from another part of Europe (Fig. 7.10). This is a strap-end fitting of silver. This is from the 9th century and was imported from the Continent. Carolingian silver such as this item was often reworked into jewellery or the like (*e.g.* Bastrup 2014a), as was also the fate of the fitting from Strøby Toftegård. It has been equipped with a secondary, ribbon-shaped eyelet which enables it to be worn as a pendant.

Cat.no. 153, a rectangular fitting, is decorated with ‘carvings’ and has a strong gilding which is preserved. It is presumably from the Viking Age and it may have been used as a strap fitting.

Cat.nos 154–158 constitute a group of fittings with animal heads as the dominant decorative element, although they are very differently shaped. Cat.no. 154 is a plump fastening from a casket with Borre-style animal heads.

Cat.no. 155 is a strap-end fitting shaped like an animal head with inlaid glass as eyes. The item is of particularly good quality, has a wealth of detail and is likely produced in the English-Irish region. Some of the closest parallels come from Kilmainham-Islandbridge near Dublin and Kaupang in



Fig. 7.11. Cat.no. 157 is an unusual fitting decorated in Borre-style – perhaps a fitting from a knife sheath? Photo: Jens Olsen, Museum Southeast Denmark.

Norway, which are Insular fittings that have been reworked to function as weights (Pedersen 2008).

Cat.no. 156 is a lozenge-shaped fitting made to look like an animal head. The item finds parallels among the so-called ‘bisymmetrical fittings’ (Klæsøe 1999, 94) and, on the basis of this, it is dated to the Viking Age. Also belonging to this period is cat.no. 157, a slightly domed fitting decorated with Borre-style animals (Fig. 7.11). Its function is unclear, but it may have been placed on a knife sheath. Cat.no. 158 is a somewhat simpler iron fitting that ends in a possible animal head; a parallel to this comes from Birka.

Cat.no. 159 is a band-shaped fitting decorated with interlacing that can be dated to sometime within the Late Germanic Iron Age and Viking Age. Cat.no. 160 is a strap-end fitting in Jelling-style, which means it can be dated to the late 9th or first half of the 10th century.

Cat.nos 161–174 are a more varied group of fittings and fragments, which are mostly not possible to date within a narrow frame. Cat.no. 162, however, stands out because it appears at first glance to be a strap end of a Medieval openwork type, but a closer scrutiny of parallels from the British area suggests that the item should be dated to the Roman Iron Age. Likewise, cat.no. 167 merits a mention, being a strap-end fitting decorated with openwork Urnes-style from either the Late Viking Age or the Early Middle Ages. This fitting is of a type whose number is rapidly growing in Denmark because of the increased metal-detector activity.

Cat.no. 175 is a fragmented, decorative fitting or a brooch made of copper alloy (Fig. 7.12). At one end, a winding spiral is visible, which suggests it functioned as a brooch. If this is the case, then it is an unusual type to find in a Danish context. The fragment is gilt, made of sheet and was probably originally pelta shaped. Parallels to this item can be found both within the group of lunula-shaped brooches, which is a Continental type with great variation in terms of size, morphology and decoration (see Wamers 1994), but also within the group of jewellery items with pelta motifs (see Wamers 1994, 144, Fig. 85). In southern Scandinavia and the northern part of the Frankish area, pelta and lunula motifs are linked to late Carolingian and



Fig. 7.12. Cat.no. 175 is a fragment surrounded by some degree of uncertainty. Its design suggests that it was used as a brooch. Photo: Jens Olsen, Museum Southeast Denmark.



Fig. 7.13. Cat.nos 179 and 180 are two four-sided decorative studs that may have adorned plate brooches? Photo: Jens Olsen, Museum Southeast Denmark.

Ottonian times (Wamers 1994, 147–148), which is probably also the case for the piece from Strøby Toftegård – that is, a dating within the span from the late 9th until the end of the 10th century. Whether the item reflects regular import or was produced in southern Scandinavia remains an open question. Native pelta-shaped works from the Viking Age are known, for instance the gold brooch from Gåbense/Skovby (Jørgensen & Petersen 1998, 290, Fig. 208) dated to the 10th century and the ‘ship-shaped’ or approximately pelta-shaped pendants from, for example, Tjørnehøj III in Funen (Pentz 2013, 214–215).

Indeterminable fittings or jewellery items (cat.no. 176–226)

This group comprises especially items that are so fragmented that their function cannot be determined with much certainty. Cat.no. 176 may be the fragment of either a plate brooch or a fitting. The item appears to be decorated in style C from the Late Germanic Iron Age, that is, the 7th century. A similar dating applies to cat.no. 177, which is a band-shaped item made of gold sheet decorated with bands of knotwork – possibly a decoration from a disc-on-bow brooch? A silver fragment (cat.no. 178) may come from

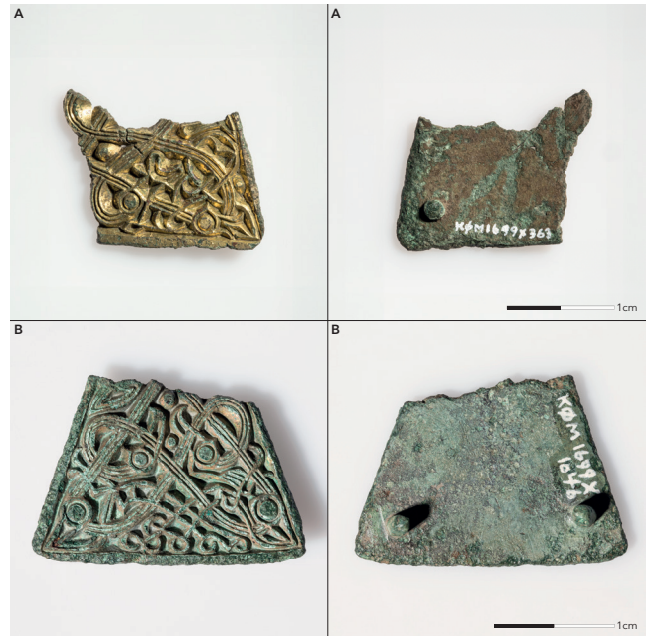


Fig. 7.14. The uncommon three-sided fittings from Strøby Toftegård, cat.nos 189–196. Photo: Jens Olsen, Museum Southeast Denmark.

either a plate brooch or a fitting and can be broadly dated to the Late Iron Age.

Cat.nos 179 and 180 are two four-sided decorative studs of slightly varying size (Fig. 7.13). They are decorated with Borre-style animal heads, concentric circles and a central cross motif. In terms of function, they may be loose decorative studs that were once attached to plate brooches. The same type of loose decorative studs is known from the oval brooches (e.g. Petersen 1928, 52, fig.45). The undersides of these items are entirely smooth, and each one has a centrally placed fastener that enable them to stick to a surface.

Cat.no. 181 is a tongue-shaped fitting or brooch with a herring-bone pattern, presumably from the Viking Age. Cat.nos 182–184 are copper-alloy fragments of various kinds whose functions cannot be determined. Cat.nos 183 and 184 may stem from different kinds of pins, and the latter may be from the early part of prehistory.

Cat.nos 185–188 are fragmented and halved pipes made of copper alloy. They are of similar kinds and have identical dimensions; they may have functioned as fittings along an edge.

Cat.nos 189–196 is an approximately complete fitting together with fragments of another two of a hitherto unknown type (Fig. 7.14) (see e.g. Tornbjerg 1998b, 17). The original shape was triangular, with several decorations breaking this frame and going over the edges. The front sides are decorated in animal art, style C, from the Late Germanic Iron Age, and they were probably produced in the 7th century. Their function is unclear – they may have been used as ornamental fittings on a casket or as jewellery. In a number of places,



Fig. 7.15. Cat.no. 199 together with cat.no. 148. Photo: Jens Olsen, Museum Southeast Denmark.



Fig. 7.16. Cat.no. 200 may have been part of a luxurious brooch of a hitherto unknown type. Photo: Jens Olsen, Museum Southeast Denmark.

the back sides of the fittings have cast-in studs or protrusions for fastening. They were probably suitable for fastening onto a solid surface, which may indicate that they functioned as part of a casket. A fitting of similar shape, but of a later date, was found at Lejre west of Roskilde (Baastrup 2015, kat.nr. 247). This is decorated in Jelling-style and is thus dated to the Viking Age. It is conceivable that these triangular fittings belong to an exclusive group of caskets or other gear that was circulating among the elite. The Jelling-style is often associated with royal milieux, which also accords with the context of the find: the royal hall at Lejre.

Cat.nos 197–198 are different forms of copper-alloy rings whose dates and functions cannot be determined more precisely.

Cat.no. 199 is a melted copper-alloy lump. A peculiar characteristic of this is that – in spite of fragmentation and deformation – its shape seems to resemble one of the silver fittings of the imported, hanging silver bowl (cat.no. 148) (Fig. 7.15). Could this be a local imitation for repair work or for copying the original bowl?

Cat.no. 200 is an approximately hexagonal and domed fitting or jewellery fragment whose surface is decorated with gripping beasts (Fig. 7.16). The item is equipped with a secondarily drilled hole. There are no exact parallels, but

the shape of the item may suggest that it functioned as the bow on a luxurious brooch of a still unknown type.

Cat.nos 201–226 comprise a range of various fragments of possible fittings and the like. Cat.no. 201 is possibly a fragment of a trefoil brooch with geometrical ornamentation. Cat.no. 213 is possibly a mount, which is made of thin, copper-alloy sheet and folded so that the cross section is T-shaped. Cat.no. 216 is a fragment of a gilt and very sturdy copper-alloy pin – possibly from a large penannular brooch? Cat.nos 221–223 comprise small pieces of copper-alloy thread. And, finally, cat.no. 225 is a leaf-shaped item made of iron, presumably a bucket mount.

Weapons and equestrian gear (cat.no. 227–293)

Cat.nos 227–232 are fragments and presumed fragments of spurs. They are all made of iron and are probably prick spurs. Spurs do not occur in large numbers until around the 10th century in the equestrian burials of that period (Stoumann 2009, 171; see also Pedersen 2014). The present items are probably from the Viking Age, but a later date cannot be excluded. Within the category of horse-riding equipment, we also find cat.no. 233, of a similar date, which is a part of a bit bar made of iron. Similar specimens are known from, for instance, Løten in Norway (Petersen 1951, 17, Fig. 14) and from Birka, Sweden (Arbman 1940/43, Taf. 26, 1).

Cat.no. 234 is a fragment of the upper part of a hilt, broadly dated to the Late Iron Age, while cat.no. 235 is a hilt of a similar type known from the Late Germanic Iron Age.

Cat.nos 236–293 are arrowheads or presumed pieces of such (Fig. 7.17). Cat.nos 236 and 237 are two arrowheads from the Viking Age that do not fall within Wegraeus' (1973) system. One of them has a socket and a flared, triangular blade, while the other one has a three-sided shape with barbs. Cat.nos 238–284 fall within Wegraeus' (1973) type A, which comprises lancet-shaped arrowheads. Cat.no. 285 belong to Wegraeus' type D2, while cat.nos 286–293 are more difficult to place within the types because of their extent of fragmentation. So, we are looking at a large number of arrowheads belonging to the Viking



Fig. 7.17. A selection of arrowheads. Photo: Jens Olsen, Museum Southeast Denmark.

Age. Fifty-eight catalogue numbers comprise arrowheads or presumed fragments of such.

There is great variation in terms of both condition of preservation and in the sizes of the arrowheads. Some are very well preserved while others are mere fragments. If we look at those arrowheads that belong to Wegraeus' type A, and which are approximately intact, then the smallest arrowhead is only 41.63 mm long and 9.11 mm wide, while the largest is 165.68 mm long and 13.81 mm wide.

Hacksilver (cat.no. 294–312)

The items found at Strøby Toftegård include 19 pieces of hacksilver and fragments of silver bars (Fig. 7.18) (cat.nos 294–312). Also included in this group of items are silver coins which, however, are introduced separately in Chapter 9. Several of these items are deliberately chopped-off fragments of neck rings or arm rings, including fragments of so-called Permian arm rings, namely cat.nos 294–299. Cat.nos 302–303 are square or trapezoid pieces of hacksilver with clear cut marks, decorated with grooves or stamped circles, respectively. Cat.no. 304 is a piece of thick, silver sheet, and cat.no. 305 is a bar that has been hammered into shape – it is elongated, band shaped and tapers slightly at one end. Cat.no. 306 is an approximately trapezoid piece of hacksilver, cat.no. 307 is a pointed bar with clear cut marks at one end. Cat.nos 308 and 309 are a band-shaped and a trapezoid piece of hacksilver, respectively, cat.no. 310 is a chopped-off rod with a square cross section, cat.no. 311 is a fragment of a rounded bar, and cat.no. 312 is an irregular piece of silver.

Bars (cat.no. 313–317)

Cat.nos 313–317 comprise five possible copper-alloy bars. These are mainly fragments of plump rods (cat.nos 313–315)

and also two fragmented rods with square cross sections (cat.nos 316 and 317).

Weights (cat.no. 318–334)

Cat.nos 318–322 are pill-shaped or cylindrical weights made of lead (Fig. 7.19). Of these, cat.no. 322 has a built-in iron rivet through the middle, possibly remains from an eyelet used for hanging? Lead weights represent a long-standing tradition and are known from the mid-6th until the 14th century (Pedersen 2008, 131–132). In contrast to these, cat.nos 323–325 are classic, spherical weights from the Viking Age, made with a coating of copper alloy over an iron kernel, Kyhlberg's (1986) type A. Cat.nos 326 and 327 are polyhedral weights, Kyhlberg's type B, likewise from the Viking Age.

Cat.nos 328–334 are all lead weights, or possible lead weights, of an either nondescript type or a degree of preservation which does not allow for a more precise dating than the period of AD 500–1300. In the discussion of weights, an important detail is that there are of course the well-known types of weights from, for instance, the Viking Age – with the spherical weights consisting of an iron kernel with copper-alloy coating, Orla Kyhlberg's type A, being virtually emblematic of the Viking Age. But, in practice, any small object could be used as a weight – from little stones to silver bars (Pedersen 2008, 127). Because of this, weights that appear to be 'nondescript' are still important. They may not belong to any dateable type, but their testimony to the activities of the past is nonetheless significant.

Production waste and melted lumps (cat.no. 335–403)

The last group within this survey of items comprises various kinds of traces from the production of metal alloys. This is



Fig. 7.18. A selection of hacksilver. Photo: Jens Olsen, Museum Southeast Denmark.



Fig. 7.19. A selection of weights. Photo: Jens Olsen, Museum Southeast Denmark.

a summary of catalogue numbers. In order for this material to contribute any information, it must be subjected to scientific analyses that may help to determine the composition of the material and thus what activities have resulted in these items. Catalogue numbers 335–403 include: various kinds of metal droplets (cat.nos 335–341), possible melted lumps of, *inter alia*, lead and copper alloy (cat.nos 342–367), melted lumps of silver (cat.nos 368–372), various kinds of slag and cindered material (cat.nos 373–390), copper-alloy casting sprues (cat.nos 391–396) and possible metal remains (cat.nos 397–403).

Condition, composition and dating of the material

In terms of dating, the metal material from Strøby Toftegård comprises especially types from the Late Germanic Iron Age and the Viking Age, which is not surprising, given the period of activity at the site. There are individual items that are earlier and some that are later, which is also a normal picture for this kind of site, since no locality can be regarded as completely isolated in time.

Generally, the objects are well preserved. But it is clear that both the wear and tear of time and mechanical and chemical impacts have left their traces. Some items have broken into smaller or larger parts, and some have worn surfaces while

other metal items appear 'as new'. In relation to other sites from Zealand, such as Tissø and Lejre, there are no indications that the material from Strøby Toftegård is neither more nor less fragmented. And these general considerations cannot be used to evaluate whether, for example, the jewellery found at Strøby Toftegård was primarily used at the site or whether it was regarded more as raw material or scrap. A combination of these two, however, always seems relevant, as it makes good sense for craftsmen and others to melt down and thus recycle worn out pieces of jewellery in new contexts.

If we look at the composition of the finds from the Late Germanic Iron Age, there are relatively few beak brooches (cat.nos 17–18) and no equal-armed brooches. These two types are normally found in fairly high numbers at localities from the Late Germanic Iron Age, as they were very popular (e.g. Hårdh 1999).

The equal-armed brooches are associated with Late Germanic Iron Age phase 1A and 1B (Høilund Nielsen 1987, 61), whereas the beak brooches of type G1 belong to phases 1A and 1B, type G2 belongs to phases 1B, 1C and 1D and type G3 is associated with phases 1B, 1C and 1D. The two beak brooches that were found at Strøby Toftegård (cat.nos 17 and 18) are both 'late' types G3.

The slightly later types of relatively standard Late Germanic Iron Age jewellery include the bird brooches, the oval plate brooches and the rectangular plate brooches. These types are associated with phase 1D, and a good number of these occur at Strøby Toftegård.

The bird brooches make up 14 catalogue numbers comprising 12 different brooches (cat.nos 19–32). The oval plate brooches are five in total (cat.nos 33–37) and the rectangular plate brooches are eight (cat.nos 38–45), to which should be added cat.nos 46–50, which are possible fragments of this type of brooch.

The standardised jewellery material reveals a tendency suggesting that the activities at Strøby Toftegård really got underway around the transition between phases 1C and 1D in the Late Germanic Iron Age, around the mid-7th century.

This does not mean that there are no earlier types at all. For instance, fragments of a disc-on-bow brooch (cat.no. 16), a possible disc-on-bow brooch (cat.no. 177) and some bow brooches (cat.nos 10–15) carry earlier dates within the Late Germanic Iron Age, but if we consider the finer chronological detail, the standardised jewellery inventory appears to indicate a marked increase from phase 1D onwards, which is when the rectangular and oval plate brooches and the bird brooches really gain a footing as part of the inventory.

This factor may be of interest to the discussion about the period of usage for the *guldgubber*. The dating of *guldgubber* is often very broad and surrounded by some amount of uncertainty. If the finer chronology of the jewellery material is used to argue that the activities on the site truly take off at the transition between phases 1C and 1D of the Late Germanic Iron Age, then this may indicate that the period of

usage for *guldgubber* is also located after this point in time. That, in turn, would mean that, in this case, the *guldgubber* figure in the latter part of the traditional chronological frame envisaged for this type of item. However, this is, of course, only a suggestion – it cannot be documented in any greater detail on the basis of the finds discussed here.

At the other end of the chronological spectrum, we find specimens from the Late Viking Age and the Early Middle Ages – such as cat.no. 167, a strap end decorated in Urnes-style. A number of details are, moreover, impossible to date within a narrow chronological window, or they are too fragmented for precise dating. This yields a contribution in the form of very broadly dated items (e.g. cat.nos 174 and 215).

Strøby Toftegård has yielded well-known and standardised types of items alongside unique items and relatively rare imports. This is a pattern that we recognise from other 'large places', such as Lejre (Baastrup 2015). Seen in isolation, the metal finds from these places provide arguments for discussing whether such sites were part of the same kinds of networks, which allowed them access to, for instance, imported 'unique' specimens. One group of finds that nonetheless distinguishes these two large sites from one another is the occurrence of *guldgubber* at Strøby Toftegård.

The standardised types include, for example, bird brooches and trefoil brooches, and the spectrum of these mass-produced types covers both the Late Germanic Iron Age and the Viking Age. The unique finds include the triangular fittings with animal ornamentation from the Late Germanic Iron Age (cat.nos 189–196).

Finds were also made here that must, until further notice, be regarded as unique specimens. We may be dealing with types of jewellery that are yet to be documented in the archaeological material, although this cannot be proven just yet. This includes especially an item such as cat.no. 200, which is an almost hexagonal and domed copper-alloy item decorated with gripping beasts. The ornamentation on this item means that it can be unequivocally dated to the Viking Age. Nor is there any doubt that it was part of an item of jewellery – there are oval brooches with very similar decoration (see e.g. cat.no. 94), but the shape means that the category of jewellery cannot be specifically determined. Currently, there do not appear to be any obvious parallels in the archaeological records. Future metal-detector finds may make us wiser. Likewise, cat.nos 179–180, two almost identical 'decorative studs', cannot be placed by means of parallels, either. They were possibly fastened onto a rectangular plate brooch of an as yet unknown Viking Age type. Also the triangular fittings (cat.nos 189–196), from the Late Germanic Iron Age, are hard to find any clear parallels for. The only possible one is, as mentioned, a fitting from Lejre, which carries a later date, suggesting it is associated with the elite. The lead brooch (cat.no. 139) and the pelta-shaped brooch (cat.no. 175) are items that are rarely seen in Denmark and may point to the Continent.



Fig. 7.20. Cat.nos 70 and 106 are good examples of the large differences in the quality of craftsmanship represented at this site. Photo: Jens Olsen, Museum Southeast Denmark.

The metal inventory from Strøby Toftegård thus contains a substantial segment of items that hitherto have the character of unique specimens, which in turn reflects the fact that the material found at this site rises, in terms of quality as well as quantity, above that of many other sites known from this period.

The site also yielded items that are associated with the ‘everyday sphere’, which represents a broad segment of the population (such as trefoil brooches, cat.nos 62–77), yet, at the same time, items such as *guldgubber* occurred, a rare item in Zealand and one that is linked to special functions, people and activities. Likewise, there is great variation in the craftsmanship and quality of the metal items – ranging from extremely crude pieces of jewellery (e.g. cat.no. 70) to skilfully wrought brooches with a wealth of details (e.g. cat.no. 106) (Fig. 7.20).

Networks and the social elite

A number of rare, imported items were found at Strøby Toftegård. The star among these is a fitting made of Continental silver (cat.no. 152), which has been reworked into a pendant. This was originally part of a set of military equipment belonging to the social elite. The item was reworked into a pendant and, as will become evident, this very recycling of an exotic item was a conscious and favourite choice among the social elite of the Viking Age, since this was a way of using such items as part of various social and political strategies.

Cat.no. 155 also has foreign origins, but this is an Insular strap-end fitting of high quality. A similar, western pedigree applies to cat.nos 148–150, which are the silver fittings from the Insular hanging bowl. This bowl places Strøby Toftegård within a very special league of magnate sites. Similar Insular bowls, intact and partial, are known in the form of six specimens from other, contemporary magnate sites or areas linked to the social elite; Lejre, Tissø, Gudme, Agerbygård and Strøby Toftegård. At each of these sites, several fragments of a bowl have been found, except at Tissø

where fragments of presumably two separate bowls were found. The quality of the pieces from Strøby Toftegård is very high, both in terms of the craftsmanship and the material. It is relatively rare that Insular metal art of this time is made of silver, and gold is only used in minute amounts (Sheehan 2013). The great majority of Insular metal art from this period consists of copper alloys. This underlines that, even within the Insular context, the fittings from Strøby Toftegård stand out as being of very exclusive quality. Moreover, the Strøby Toftegård bowl’s wealth of detail is impressive, and the fittings find their closest parallels in the above-mentioned Witham Bowl, which is in many respects unique. Many of the other known Insular hanging bowls are of simpler decoration and made from copper alloy (see e.g. Bruce-Mitford & Raven 2005). Altogether, this underlines that the individuals who resided at Strøby Toftegård possessed an extensive network – either including directly international dimensions or, at least, regional dimensions through which the exchange of valuable gifts between magnates ensured alliances and loyalty.

At Strøby Toftegård, there was yet another rim sherd from a bowl of Insular origin. This may be a hanging bowl or a bucket (cat.no. 151). It is no coincidence that objects whose origins lie in the Insular area are found at magnate farms. For one thing, the resources and contacts that could attract such imports were present, and for another, so was the need to use and show off imports. By using rare imported goods actively, the social elite was able to demonstrate that they had international contacts, they had a knowledge about areas outwith their own local region and they were able to hold their own there. In this way, the social elite consciously employed imports in their social and political strategies (Baastrup 2014b; 2014c). This was, of course, also the case at Strøby Toftegård, whose segment of goods imported from Continental and Insular areas suggest that this site was an important part of a network with international links.

There may be any number of reasons why the various imports ended up in Strøby Toftegård. We cannot tell whether they arrived as the result of plunder, ransom, diplomatic gifts or trade, to mention just a few options. Nor can it be determined whether the objects from abroad perhaps circulated in the south Scandinavian area before ending up in Strøby Toftegård. But the import documents that the leaders at Strøby Toftegård had the skills and the connections that enabled them to attract such import because they were part of a network and either themselves participated in activities abroad or had close contacts that did.

With this in mind, it is appropriate to add a comment about the nearby locality of Kastanjehøj, where a so-called coin brooch was found, that is, a standardised brooch from the Continent in the 9th century (Baastrup 2014a, kat.nr. 138), as well as a Continental silver fitting of the same date (Tornbjerg 1997, 18; Baastrup 2014a, kat.nr. 8). It is relatively rare that Continental silver is found in settlement

contexts. Only eight settlement finds of this type have been documented in Denmark. Of these, six were found at localities that can be unequivocally linked to the social elite. Three of these items come from Tissø, one is from Gudme while the items from Strøby Toftegård and Kastanjehøj constitute the remaining two settlement finds (Baastrup 2014a, 100–101). The coin brooch is one of the rather rare types within the large group of small Carolingian-Ottonian brooches in Denmark (Baastrup 2009, 217–218). Strøby Toftegård and Kastanjehøj thus constitute a conspicuous concentration of Continental silver found at a settlement, and one of the items is a rare coin brooch.

The hanging bowls can be ascribed a very active role in the sense that they may have arrived in Denmark as intact items, ready for use in a new context. A lot of the Insular imports comprise fittings that have been broken off various items of furniture and such from monasteries and churches (Baastrup 2014a with references). But hanging bowls are small, finite entities, which are, in principle, easily removed from their original context without unnecessary fragmentation. This allows us to imagine that they were intact, for example coming from an Irish church, ready for use in a new context in Denmark. However, it cannot be excluded that such items were broken up in their place of origin – finds of fragmented metal goods intended for reworking and sale are known from, for example, the stockpile of metal goods from River Blackwater near the town of Armagh, Ireland (see Bourke 1993, 24 ff; Ó Floinn 2001, 88; Bruce-Mitford & Raven 2005, kat. nr. 164, 166–168). But the fact that there are two, possibly even three, fragments from the same bowl represented at Strøby Toftegård suggests that the bowl arrived there intact and could be used for celebrations, rituals or something else – like the Continental silver cups from Fejø and from Ribe Nørremark (e.g. Brøndsted 1924, 330; Wilson 1960).

Thus, the hanging bowl from Strøby Toftegård could be used in rituals conducted by the social elite. That these rare bowls are primarily represented at magnate sites, and sites with documented ‘cultic activities’ at that (Tissø, Lejre, Gudme and Strøby Toftegård), suggests that the bowls may have played a role in such activities.

Cult objects

Cult objects comprise a disputed entity based on estimates, but in relation to the number of miniature weapons and tools, valkyrie brooches and other possible amulet types (see e.g. Zeiten 1997), the occurrence of such objects at Strøby Toftegård is modest. A single Thor’s hammer (cat.no. 109) can with certainty be labelled an amulet. Moreover, cat.no. 272, a very small arrowhead of about 4 cm, may belong to the category of miniature weapons.

On the other hand, the number of *guldgubber* is remarkably high for a locality in Zealand. Exactly the occurrence of

guldgubber is one of the points that makes Strøby Toftegård stand out clearly from many other contemporary sites. A total of eight were found (cat.nos 1–8). The function and date of *guldgubber* remain uncertain, and they are commonly dated rather broadly to within the Late Germanic Iron Age and Viking Age.

It is hard to imagine that *guldgubber*, given their frailty, played any significant role as a means of payment, or that they had other practical functions. Margrethe Watt (2008, 52–53) emphasises that their symbolic motifs may be regarded as having been produced specifically with a view to cultic activities and that, at Sorte Muld in Bornholm, they were linked to the central settlement site. She interprets *guldgubber* as a tangible indication of the contact between human beings and their deities. What most religious ceremonies have in common is the wish to establish contact with the gods – perhaps in order to avoid a crisis situation, ask for help or obtain advice regarding the future. Watt (2008, 53) believes that *guldgubber* may have been payment for such assistance, and she further suggests that the presumed cultic activities at Sorte Muld were conducted by the person whom she refers to as the ‘chieftain’.

But perhaps our interpretation of *guldgubber* needs to be adjusted so that it becomes a bit more inclusive (Baastrup 2016). It is possible that *guldgubber* were regarded as a kind of invitation or a token from the magnate. If you were the recipient of a *guldgubbe* from the magnate, you were allowed access to the ritual. You could then bring the little gold item with you to the magnate’s hall or some other place, and it could then be used there. In this way, it may have functioned as both a way of emphasising social position and membership, while also playing a part in the cult as a sacrifice. These two functions are not mutually exclusive. In order to be the recipient of a *guldgubbe*, and thus be granted access to the inner circles of society, you needed to be part of an ‘intellectual network’.

This network seems to include some of the most significant sites of that time – such as Gudme, Sorte Muld, Uppåkra and Strøby Toftegård. These are places where the elite was represented, where the physical organisation of the sites was carefully planned and where there seem to have been ‘segregated areas’ where *guldgubber* are found and where, arguably, various cultic activities took place. There is a great variation in the motifs stamped onto *guldgubber*, but their shape and medium are very homogenous, which would make them easily legible to the members of the network (Baastrup 2015). A similar phenomenon exists in the Temple of Bel at Palmyra, Syria (dedicated in AD 32). Here, cultic activities honouring the gods were conducted on an annual basis. These rituals included processions, sacrifices and ritual meals. The ritual banquets were held in the temple and participation was strictly controlled by means of ‘terracotta tokens’ or invitations given out to the priests who served in the temple and to selected citizens

(Colledge 1976, 11, 29; Al-As'ad *et al.* 2005; Raja 2015). In this connection, it is noteworthy that foodstuffs and probably also ritual meals were part of the ceremonial sphere of the Scandinavian elite at many magnate farms – such as Strøby Toftegård, Lejre and Tissø (see also Jørgensen 2009; Christensen 2015).

If we imagine that the local magnate used *guldgubber* as tokens of invitation given out to selected individuals, who were thus given access to participating in specific rituals, and that the *guldgubber* later formed part of an offering, this would create an extra dimension in people's reliance on their local magnate. He provided or paid for the sacrifice that you gave as part of the ritual, and you were thus indebted to him. This would strengthen your sense of dependency and you became his loyal ally in this way, rather like we see with the ring swords of that same period (see *e.g.* Steuer 1987; Nørgård Jørgensen 1999).

We cannot be sure how systems of invitation worked at that time. What gave you access to various activities? If you were to take part in a ritual, what sorts of things needed to be in place in order for you to be invited? Did it have to do with your position in local society, your kin, your physical or psychological traits? Or something completely different? One thing was, however, certain: in prehistory, possibly even more so than today, you depended on the fact that people really were who they claimed to be. There were no portrait photographs that could easily be forwarded or databases to check. Perhaps *guldgubber* were tokens in such a system of invitation, as 'decisive documentation' to prove on arrival at a cultic site that you were, in fact, one of the invited persons who was allowed access?

No matter how we imagine the concrete role of *guldgubber*, there is no doubt that they were linked to cultic activity. This was also the case at Strøby Toftegård. Items such as the imported bowls seem to point clearly in that direction. Cultic activities did take place at this site and they were probably led by the magnate himself. So, this is the frame within which we should interpret the occurrence of *guldgubber*. They were here, because they were part of cultic activities that were conducted here. This must have been some of the very central activities at Strøby Toftegård – alongside the many other functions that are evidenced at the site. It is noteworthy that Strøby Toftegård is the (hitherto) only site in Zealand where *guldgubber* have been found. Is this because the cultic events that were conducted here differed from those at Lejre and Tissø? Or are *guldgubber* represented at Strøby Toftegård, because the social network of the magnate there included people from Sorte Muld, Gudme or Uppåkra, where numerous *guldgubber* have been found?

As Svend Åge Tornbjerg emphasises (1998a, 227), in terms of their motifs, the *guldgubber* from Strøby Toftegård appear to be linked predominantly to the *guldgubber* from Lundeberg in Funen. This may be because there was close contact between the people in power in the area around

Gudme, including Lundeberg. At Sorte Muld, 2480 *guldgubber* have been found (Watt 2008, 43), and at Lundeberg 102, while stray finds of *guldgubber* are known in modest numbers from Gudme, and Uppåkra sports 120 specimens (Michaelsen 2015, 175). In comparison, the eight *guldgubber* found at Strøby Toftegård are by no means overwhelming, but they are nonetheless an unequivocal signal that Strøby Toftegård was home to activities that required the presence of *guldgubber*. The people here were part of a network that knew how to use them and had access to them. *Guldgubber* require both access to gold and craftsmen with the specialised knowledge of how to make them. But in particular, they required knowledge – of how to use them and of their symbolic content.

Guldgubber may thus be an indicator that a network operating at a high social or intellectual level was in place. We may imagine that, in order to 'use' *guldgubber*, you had to be part of that network of people who knew, understood and accepted them. As mentioned, this network includes the major social players at the time – the elite of, respectively, the Gudme area, Uppåkra and Sorte Muld. The mutual links within this network are further emphasised by the likenesses in images found on *guldgubber* from Lundeberg, Uppåkra and Sorte Muld (Watt 2004, 215).

It is a bit of a mystery why there are no *guldgubber* at Tissø and Lejre. One may also wonder why this type of item is not represented at Lærkefyrd, near Slangerup in Zealand, where outdoor cultic activity has been evidenced (Sørensen 2000b). The cultic site at Lærkefyrd was in use from the Late Roman Iron Age until the Viking Age. Although cultic activities have been documented at a variety of other places in Zealand, only Strøby Toftegård sports *guldgubber*. Against this background, one suggestion is that the links Strøby Toftegård had to Gudme were stronger than those to, for instance, Lejre and Tissø. But it may also reflect that the cultic activities at this site were a little different, and that this may, in turn, be reflected in networks and functions. No matter what factors were in play, the *guldgubber* of Strøby Toftegård highlight this locality as a central junction in terms of the cultic life of the Late Iron Age.

Weapons, war and hunting

One of the most numerous objects found at Strøby Toftegård are arrowheads. As already noted, their condition of preservation varies greatly, which results in some obvious uncertainties in terms of their categorisation. However, the great majority are the lancet-shaped arrowheads belonging to Wegraeus' type A, but some are more difficult to categorise. There are 58 catalogue numbers that belong to arrowheads or presumed fragments of such (cat.nos 236–293). Wegraeus' type AI is the one most abundantly represented in the material. This type is interpreted as well suited for hunting because of its relatively broad blade, which causes

the greatest possible loss of blood and, thus, death for the animal (Wegraeus 1973, 202). The arrowheads therefore appear to reflect hunting rather than warfare. Other possible weapons are represented by two fragments of sword hilts (cat.nos 234–235). Thus, regular weaponry seems to be modestly represented at Strøby Toftegård.

Weights, bars and metal waste

Central functions such as crafts and trade are reflected in the material from Strøby Toftegård. The traces of various crafts comprise especially different kinds of production waste (cat.nos 335–403) and metal bars (cat.nos 313–317), and these items will only be briefly mentioned here. This aspect of what may be revealed by the metal inventory may be qualified by, for instance, metallurgical analyses. For now, it will simply be noted that there are traces of metalworking at Strøby Toftegård.

Additionally, cat.no. 138 is a mould for the production of domed circular brooches, presumably of a Viking Age type. This, together with other kinds of metallic production waste, documents that jewellery was produced on site. Similarly, raw garnets that were used in exclusive jewellery were also found (see Sode, this publication, article no. 10).

An important indicator of trade-related activities may be the weights (cat.nos 318–334) and hacksilver (cat.nos 294–312) found, although these may equally reflect craft-related functions (Pedersen 2008). The weights comprise especially lead weights of a broadly dated type, spanning the 6th to the 14th centuries, but there are also examples of the more classical Viking-Age type.

Summary

How are we to interpret Strøby Toftegård if taking into account only the metal finds? Briefly, this is a site whose metal inventory is concentrated around the Late Germanic Iron Age and the Viking Age, although both earlier and later periods are represented, too. At the transition between phases 1C and 1D of the Late Germanic Iron Age, an increase in activities can be seen, and this level of activity is then retained for the duration of the Viking Age. The inventory spans widely, from standardised ‘everyday jewellery’ to rare imports of very high quality, from melted lumps of metal to weights, and with a large segment of arrowheads that were likely intended for hunting. There is no doubt that we are looking at a magnate settlement of high social standing. The locality was a central part of the cultic life of the Late Iron Age, and the people in power at Strøby Toftegård were part of an elite network with international dimensions. They had the skills, the contacts and the will to attract rare objects and yet, at the same time, the activities at the site also included ‘ordinary people’, whose presence

is reflected in the significant proportion of standardised jewellery items.

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Minor finds and everyday items from Strøby Toftegård

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Abstract

In the plough soil, postholes, pits and cultural layers of Strøby Toftegård, a wide range of small objects have been found. These objects are often either worn or fragmented, which invites the notion that these items were accidentally lost rather than consciously deposited.

Especially the area around the great longhouses has revealed many objects from the plough soil and pits, but also the ordinary settlement area has thrown up a large number of items. This article goes through these objects and their placement at the site.

Keywords: Objects, everyday life, textile production, bronze-casting items

During the excavations of Strøby Toftegård, many everyday items and minor objects were found (Fig. 8.1). This material is briefly presented here, including descriptions of selected items and of the circumstances of the finds. Within some categories, many finds are only sketchily mentioned in the text, but these are individually described in the catalogue. The catalogue is accessible on <https://natmus.dk/cultsites/>.

The article emphasises whether the items are represented at Farm 1 and/or the other farm units, because there are differences in the architecture of these areas, and it is thus relevant to examine how the objects are distributed across these two areas (Beck & Kildetoft Schultz, Chapter 2). Farm units 2 to 9 represent the more ordinary settlement, while Farm 1 encompasses the great longhouses. In a few cases, the present survey of the objects found shows that some items are exclusively found within Farm 1, for instance casting moulds only occur in the area with the great longhouses, which suggests that metalworking was linked to the magnate. By far the most categories of objects have been found in both areas and there is a roughly equal distribution between, respectively, Farm 1 and the remaining farm units.

Metal-detector searches of the area formed part of the excavation methods employed at Strøby Toftegård, as well as sieving the plough soil from selected square-metre sections,

especially around Farm 1. This has yielded many iron objects which may, however, be difficult to date since they belong to types that for long stretches of time did not alter in terms of shape and material. When located as stray finds, this makes them hard to date with exactitude. For example, scissors, axe heads and fittings, as well as nails and spikes, have been found that may belong to the Viking Age settlement, although an earlier or later date cannot be excluded. Because of this, not all stray finds are included in the survey below, but in cases where a date within the Late Iron Age is plausible, the items are included. In connection with this article, a number of items have been allocated a catalogue number, while their original item number is noted in the catalogue. The catalogue numbers used here continue from where the catalogue numbers in Maria Panum Baastrup's chapter left off (Baastrup, Chapter 7).

In the catalogue, it is noted whether the item was found in a feature, a cultural layer or in the plough soil either in connection with sieving of the plough soil (described as soil-sieving trench) or as a stray find located by means of a metal detector.

The distribution maps have been constructed on the basis of the information about the find circumstances of the objects. In some cases, the items can be located with great precision, since they were either found in features,

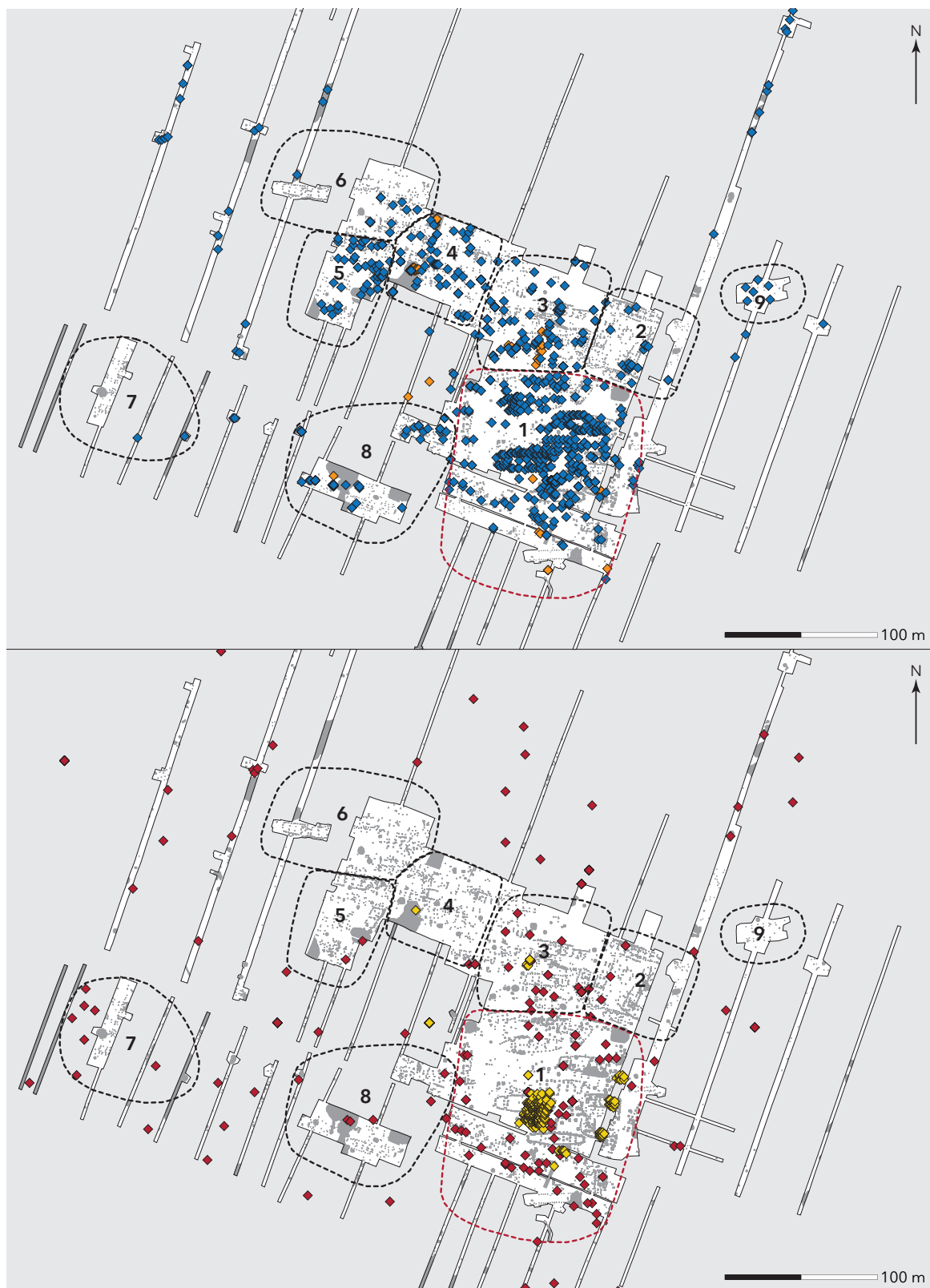


Fig. 8.1. Top: an overview of the excavation plan with farm units indicated alongside the locations of items found in features (blue) or in cultural layers (orange). Below: an overview of the excavation plan with farm units and the locations of items found in the plough soil either as stray finds (red) or in soil-sieving trenches (yellow). The image includes all items, not only the ones described in this article. Illustration: Museum Southeast Denmark.

included in drawings or registered with GPS coordinates. In other cases, items are described as ‘stray find north of excavation area 1996’ or simply as ‘stray find’. Where an approximate indication of the find spot exists, a fictitious point that corresponds to the description has been chosen. Items described as stray finds have been given a coordinate roughly in the middle of the excavation area (see Fig. 8.1).

Metal objects

Keys

(Cat.nos 410–420, Fig. 8.2)

In connection with the archaeological excavation at Strøby Toftegård, a total of 11 keys and key fragments have been found. The keys were found in features and in plough soil, either in soil-sieving trenches or as metal-detector finds. The keys have been categorised partially on the basis of Ulfheim’s categorisation of key types, based on material from the trading site of Birka some 30 km west of Stockholm. From Birka, a total of 143 keys are known, primarily found in women’s graves, but they also occur in both men’s and children’s graves (Ulfheim 1989). Strøby Toftegård, however, has also yielded keys that do not fit within Ulfheim’s types, but which find parallels at, among other places, the magnate site of Lejre in Zealand and in the early town of Hedeby by the Schlei fjord in northern Germany.

Five of the keys are made of copper alloy (cat.nos 410–414). Three of these are of the same type, having an approximately pentagonal bit with a central rectangular aperture, and these fit into Ulfheim’s type IC:2, which is dated to the Viking Age. On two of the keys (cat.nos 410–411), the bow is only partially preserved (cat.nos 410–411). Keys of a similar design have been found in, among other places, Odsherred in Denmark and the parish of Ørsta in Norway. The key from Odsherred is a stray find, while the Norwegian key was found together with, *inter alia*, an Arabic coin, struck in AD 769. The keys, however, are broadly dated to the Viking Age, since it must be expected that the coin was in use for some time before it was deposited in the grave together with the key (Almgren 1955, 69, Tavle 36 a and b). Cat.no. 413 resembles cat.nos 410 and 411, but the bow is not preserved. The item is moreover decorated with little circles along the edges. A fourth key has a similarly shaped bit, but is somewhat more roughly designed, the bit has no perforations and the bow is not preserved (cat. no. 412, Ulfheim’s type IB:2). The keys are turning keys and were probably used for caskets or coffers, considering their relatively delicate design. Alternatively, keys may have functioned as amulets. Two of the keys were found in pits, cat.nos 410 and 413, located in, respectively, Farm 1 and Farm 4, while the others are stray finds.

The last of the copper-alloy keys differs from those described above in that it is a lift key with an elongated, bent stem (cat.no. 414). The bit comprises two prongs, and the stem

has a square cross section which flattens a little around the middle of the stem, and one side is decorated with interlacing. The key fits within Ulfheim’s type IV:B1 and was found in a pit located on Farm 1 just north of the great longhouses. The type is known from, for instance, Lejre (Baastrup 2015, 532, kat.nr. 253), Aggersborg (Madsen *et al.* 2014, 316, Fig. 6.79) and from Trelleborg (Nørlund 1948, Tavle XXIII), although those specimens are made of iron. Keys of this type are known from Roman Iron Age until the 11th century.

Five iron keys were found, only one of which is intact. This, cat.no. 416, is 11.7 cm long and has an attachment loop in one end. At the other end, the bit branches out from the stem into two prongs that bend outwards and upwards alongside the stem into the shape of a T. This type occurs in the Viking Age, perhaps as early as the 8th century (Madsen *et al.* 2014, 314). The key is a stray find, but a fragment of a key belonging to the same type was found in a pit, A31003. However, only the bit is preserved, see cat.no. 417. On the basis of ¹⁴C-dating, this pit, A31003, is dated to the Viking Age (AD 775–970). Keys with T-shaped bits are known from places such as Hedeby (Westphalen 2002, 176 and Tavle 67), albeit with a more rounded bit than on the keys from Strøby Toftegård.

Cat.no. 415 represents most of an iron key where a piece of the bit has broken off. The preserved part of the key is 8.3 cm long. At one end, the stem is folded in such a way that it forms a little loop. At the other end, the stem is bent at a right angle and ends in an almost square bit plate. A similar key was found in Birka grave 607, together with, *inter alia*, a pair of double-shelled oval brooches (Arbman 1943, taf. 267:1 and taf. 68:1 and 69:9). The key from Strøby Toftegård was found in pit A10004, located within Farm 1.

The remaining three fragments must be regarded as possible iron keys, since only fragments of the bow or stem are preserved (cat.nos 418–420).

Almost half of the keys were found within Farm 1, either in pits or as stray finds in the plough soil (Fig. 8.3). Cat.nos 410, 414 and 415 were found in cooking pits within Farm 1, while cat.nos 411, 416 and 419 are stray finds from within Farm 1. In Farms 3, 4 and 8 keys were found in pits (cat.nos 413, 417 and 418), or were located as stray find (cat.no 412 and 420). None of the keys seems to have been affected by heat or fire, although some of them were found in cooking pits, which means they must have ended up in the features in connection with filling these in. If the number of keys found at Strøby Toftegård is compared to the contemporary magnate site of Lejre in Zealand, about the same number has been found in both places; Strøby Toftegård has yielded 11 keys or key fragments, Lejre 12. By way of comparison, at the nearby and contemporary, albeit more common agrarian, settlement of Bøgelund near Varpelev in Stevns, only one single iron key was found in a well (Tornbjerg 2002).

It has been debated whether keys should be considered as high-status objects and if it is an object related to women as head of the household (Pantmann 2014). The keys from Strøby Toftegård cannot be linked to women due to their



Fig. 8.2. Keys and tweezers from Strøby Toftegård. A: cat.no.410; B: cat.no. 411, C: cat.no. 412, D: cat.no. 413, E: cat.no. 414, F: cat.no. 415, G: cat.no. 416, H: cat.no. 417, I: cat.no. 418, J: cat.no. 419, K: cat.no 420, L: cat.no. 421. Photo: Jens Olsen, Museum Southeast Denmark.

find circumstances, but keys seem to be more commonly occurring within Farm 1 than Farms 2–9.

Tweezers

(Cat.no. 421, Fig. 8.2)

Only one pair of tweezers (cat.no. 421) is known from the excavations at Strøby Toftegård, a stray find with no

recorded find spot. The tweezers are 7.5 cm long and, under the upper part, the item is decorated with pairs of transverse grooves, with gaps of about 1 cm. The arms are decorated with semi-circular incisions along both edges. At the tip, the tweezers are just under 1 cm wide. On the basis of shape, ornamentation and circumstances of the find, it is not possible to date this item any more precisely than the Late Iron Age.

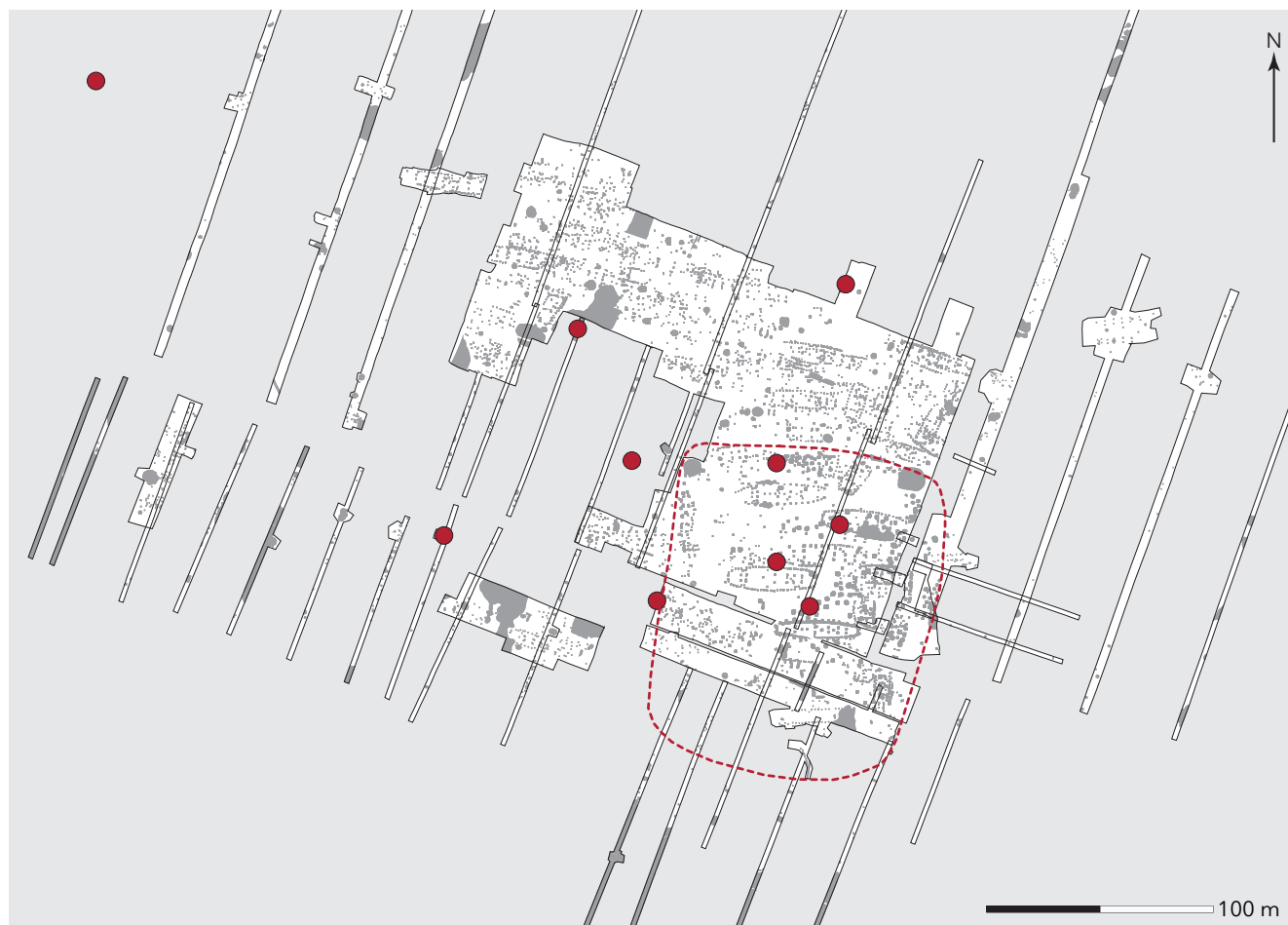


Fig. 8.3. The distribution of keys across the site, about half of which were found at Farm 1, which is shown with a dotted red line. Illustration: Museum Southeast Denmark.

Knives

(Cat.nos 422–468, Fig. 8.4)

A knife was an everyday tool and, in the object inventory from Strøby Toftegård, knives constitute one of the best represented, though heterogenous, categories of objects. A total of 42 knives as well as four possible fragments of knives were found. The knives were located in features, cultural layers and soil-sieving trenches, but also as stray finds (Fig. 8.5).

Generally speaking, the knives from Strøby Toftegård are relatively small. Often the blades are short, which may be due to repeated sharpening, but in other cases the knife seems to simply have been produced with a short blade. All the knives – bar one, which is made from a copper alloy and was found in an urn burial from the Late Bronze Age – are made of iron. No analyses have been carried out on the metal, so the descriptions of knives are based exclusively on the look of the objects.

The length of the blade varies from 2.1 cm to 6.8 cm. The length of the tang is hard to ascertain since, in by far the most cases, the tangs are broken. In those cases where the tang has been preserved intact, the length of it varies from 3.7 cm to 9 cm. At the settlement and ring fortress of Aggersborg at Limfjorden, 83 knives were found, many of which are, as in the case of Strøby Toftegård, worn down due to repeated sharpening. It is estimated that the knives from Aggersborg were originally of a length around 6 cm and were commonly rejected when the blade had been worn down to around 3–4 cm (Dobat & Roesdahl 2014, 310).

Dating of knives exclusively on the basis of typology often result in quite broad dates (Ottaway 2004, 107–108) and, in the catalogue, the context of each knife find is described and it is noted whether the same feature contained any other dateable objects.

A total of 21 knives were found in 17 features and so, in the majority of cases, just one knife is represented in each feature. In pit house G101, however, three knives

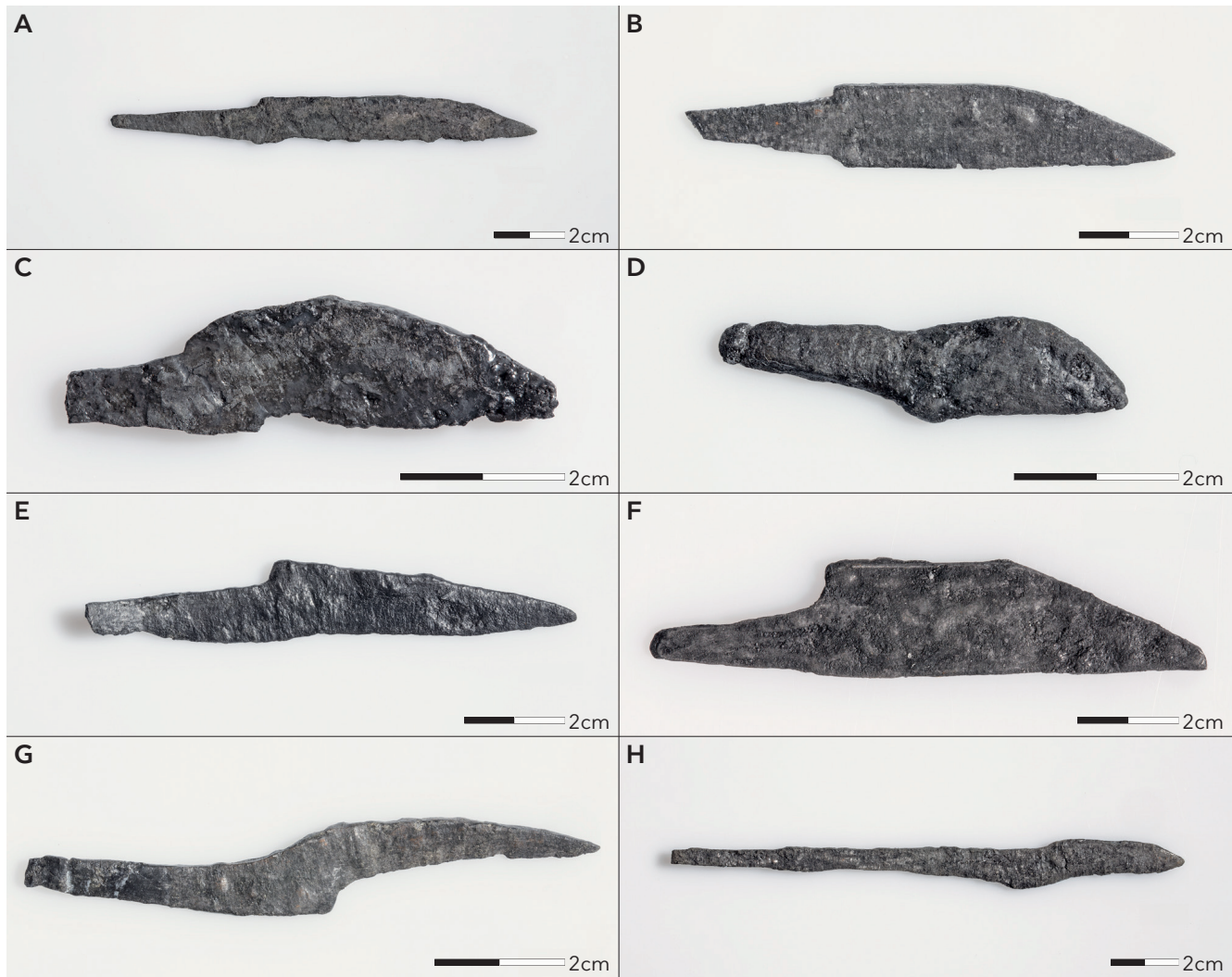


Fig. 8.4. Selection of knives from Strøby Toftegård. A: cat.no. 448, B: cat.no. 446, C: cat.no. 441, D: cat.no. 453, E: cat.no. 429, F: cat.no. 455, G: cat.no. 436, H: cat.no. 437. Photo: Jens Olsen, Museum Southeast Denmark.

were found, while the pits A10110 and A12570 yielded two knives each. In all three cases, the knives found within the same feature are differently designed, and this emphasises the fact that knives of different types overlap in time and also that handmade knives rarely have the exact same design.

The distribution of knives is even across the site, and the area with the ordinary longhouses does not differ from that with the great longhouses. Nor are the knives associated with specific types of features.

Roast forks

(Cat.nos 469–470, Fig. 8.6)

Two roast forks were found – one in connection with sieving soil from trench 2453 within Farm 1 and the other

was found in the plough soil north of the great longhouses (Fig. 8.7). Both roast forks have three prongs, and one is equipped with a smaller set of prongs on one side, see cat. nos 469 and 470. Parallels to the forks have been found at, *inter alia*, Tissø (inv.no. KN555) and Trelleborg (Nørlund 1948, Tavle XIX), while in all 24 roast forks were found at Hedeby. The interpretation of these forks is that they originally had wooden handles and were intended as tableware (Westphalen 2002, 158–160). Although the forks were found in the plough soil, it is worth noting that they turned up in the vicinity of the great longhouses where there is also a concentration of cooking pits (Woller 1998, 74). The roast forks from Strøby Toftegård are stray finds, but generally such forks are dated to the 10th century, although they do occur also in the earlier part of the Viking Age (Grøn 1994, 133).

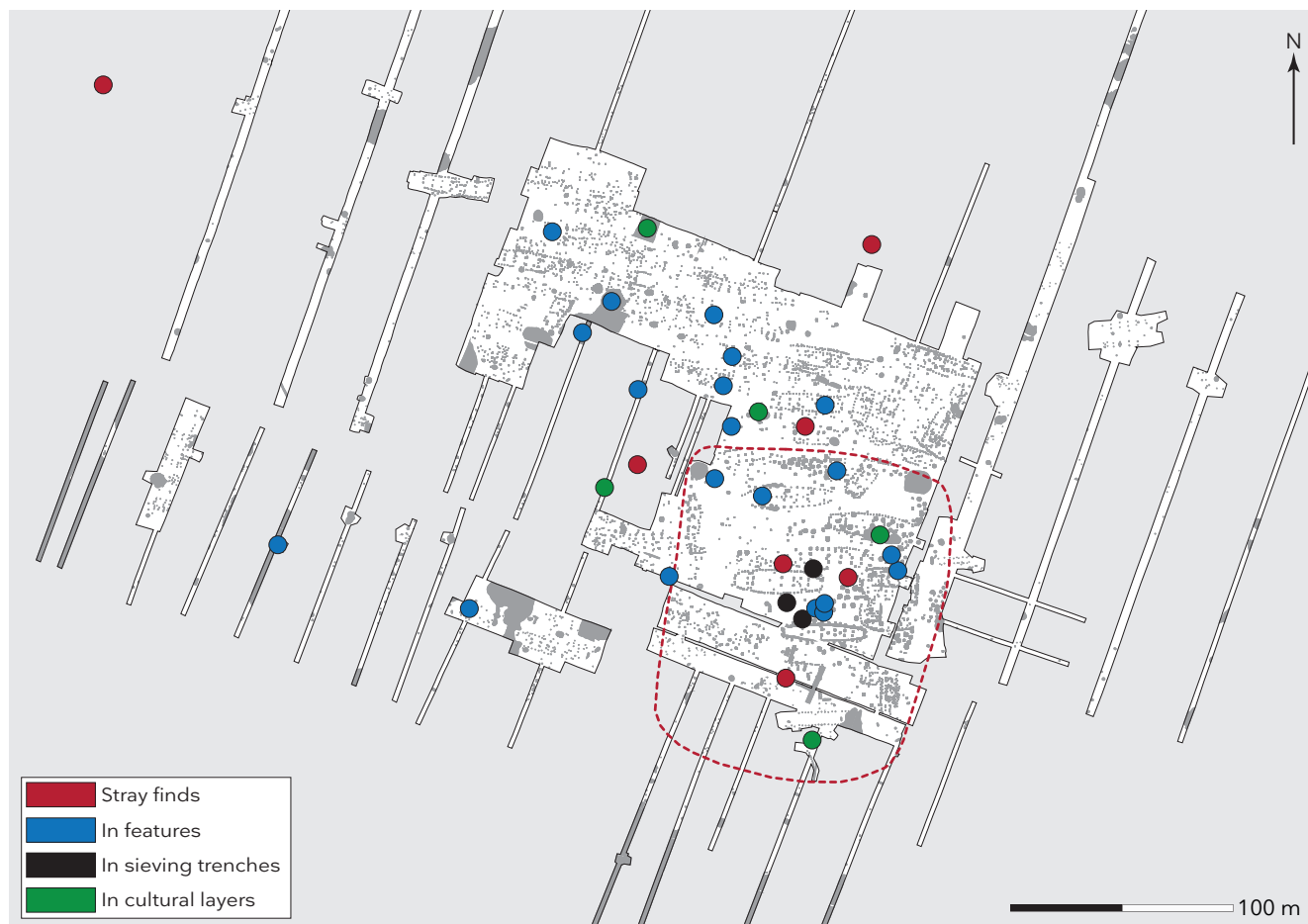


Fig. 8.5. The distribution of knives across the site. Farm 1 with the great longhouses is indicated with a red dotted line. Illustration: Museum Southeast Denmark.

Drill

(Cat.no. 471, Fig. 8.6)

In the cultural layer A30608, within Farm 8 south of the great longhouses, a drill was found (Fig. 8.7). The drill is 13.9 cm long, with a rectangular cross section at one end, but rounded towards the other and ends in a slightly trapezoidal section. Drills of a similar design have been found in several tool caches from the Viking Age (Engberg & Buchwald 1995, 62–75).

No other finds were made in this cultural layer, but it is supposed to be contemporary with the settlement.

Fire striker

(Cat.no. 472, Fig. 8.6)

A single fire striker with coiled ends was found in the uppermost layer in a well, A11800 at Farm 2 (Fig. 8.7). The fire striker is dated to the Viking Age on the basis of parallels from, *inter alia*, Fyrkat, Trelleborg, Bogøvej grave BB (Roesdahl 1977, 25 Fig. 17; Nørlund 1948, Tavle XXIX:12; Grøn 1994, 121, Fig. 124).

Sickle

(Cat.no. 473)

A single iron sickle was found at Strøby Toftegård. The crescent-shaped sickle is fragmented at the cutting edge and the point. It was found in the plough soil in connection with soil-sieving trenches within Farm 1. It cannot be excluded that the sickle is later than the settlement.

Iron bars and iron rods

(Cat.nos 474–480, Fig. 8.6)

Four iron bars and three possible iron bars were found at Strøby Toftegård. The iron bars are variously shaped, from square cross sections that taper towards the ends to rods with circular cross sections. The former type only appears as stray finds while the latter occurs in a number of pits.

Iron bars and iron rods were found both within Farm 1 and Farms 3, 4, 5, 6 and 8. Cat.no. 479 cannot be allocated a definite location and thus does not appear in the map in (Fig. 8.8).

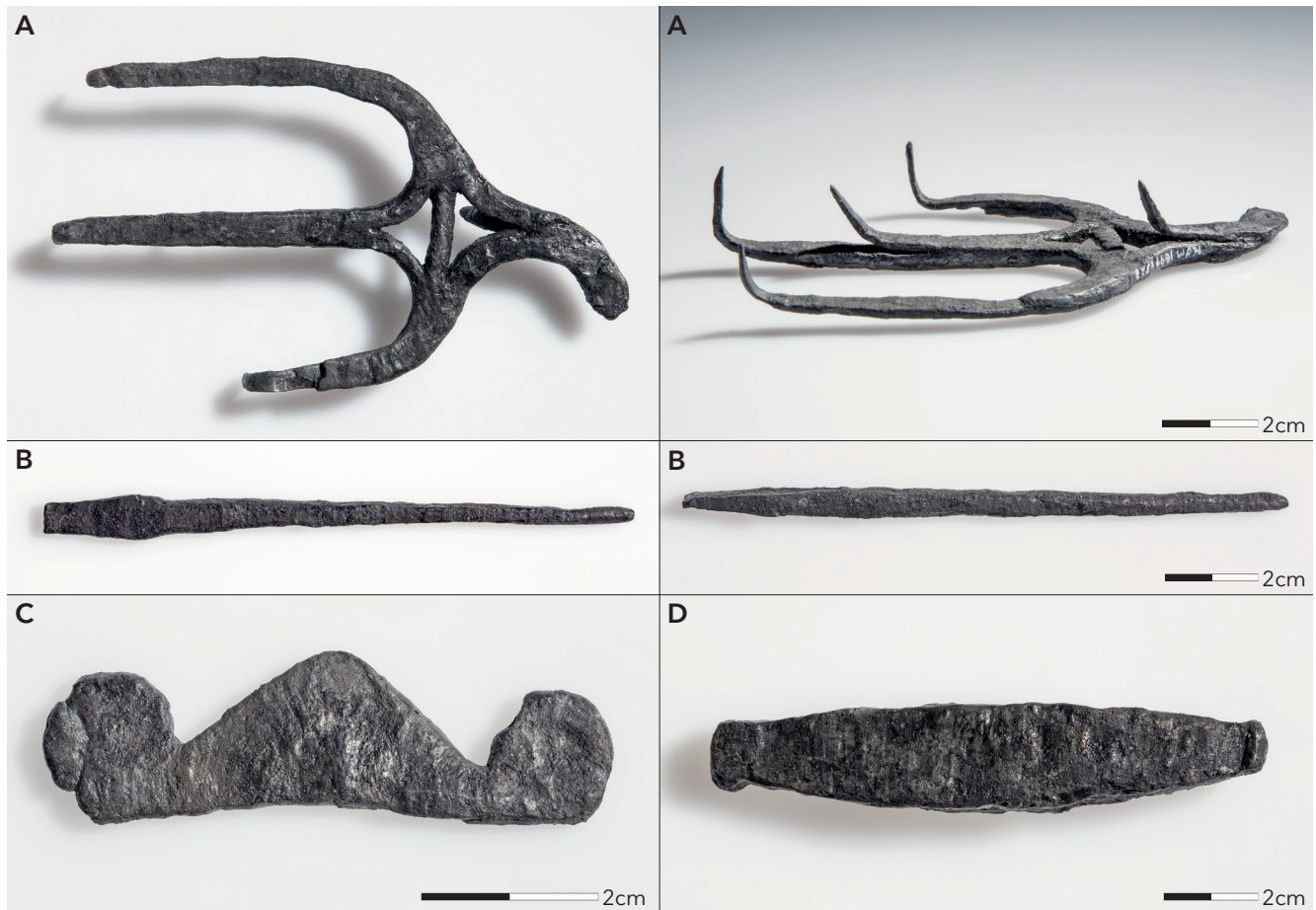


Fig. 8.6. A: Roast fork (cat.no. 469), B: drill (cat. no. 471), C: fire striker (cat.no. 472), and D: iron bar (cat.no. 473) from Strøby Toftegård. Photo: Jens Olsen, Museum Southeast Denmark.

No smithy has been excavated at Strøby Toftegård, but in a pit, A30365 in the southern part of the site, hammer-scale was found. Hammerscale was not systematically sought during the excavations, and the hammerscale mentioned here was discovered during scientific studies after the excavations had been concluded (Henriksen & Mortensen, Chapter 5).

Mounts and fittings

(Cat.nos 485–498, Fig. 8.9)

Within the category of mounts and fittings, only items that were found in features or cultural layers have been included, since the dating of stray finds within this category is too uncertain. The fittings constitute a heterogeneous group of items that are in some cases very worn and fragmented. Some, however, are well preserved and, judging by their shape and size, they may have been placed on caskets or small coffers, such as cat.no. 492, which was found in pit house G103.

Handles

(Cat.nos 499–501, Fig. 8.9)

Three fragmented iron objects are presumed to be handles. They are very distinct from one another. Cat.no. 500, found in pit A14009, is a small, band-shaped and elongated iron item, which is folded at one end while the other end has broken off. Cat.no 501 is a slightly curved and twisted rod, which is hook-shaped at one end while the other end is broken off. Cat.no. 501 may be a handle for a cauldron or bucket. Handles of a similar design are known from Ralswiek in northern Germany (Herrmann 2005, 94). Cat.no 501 was found in pit A12570 where also an oval plate brooch (cat.no 36) from the Late Germanic Iron Age and a Viking Age equal-armed brooch (cat.no 54) were found.

Cat.no. 499 is a small, S-shaped piece of iron, which is coiled at one end, but hammered flat and fragmented at the other end. A handle of similar design is known from Birka grave Bj 24a (Arbman 1943:9). Cat.no. 499 was found in a

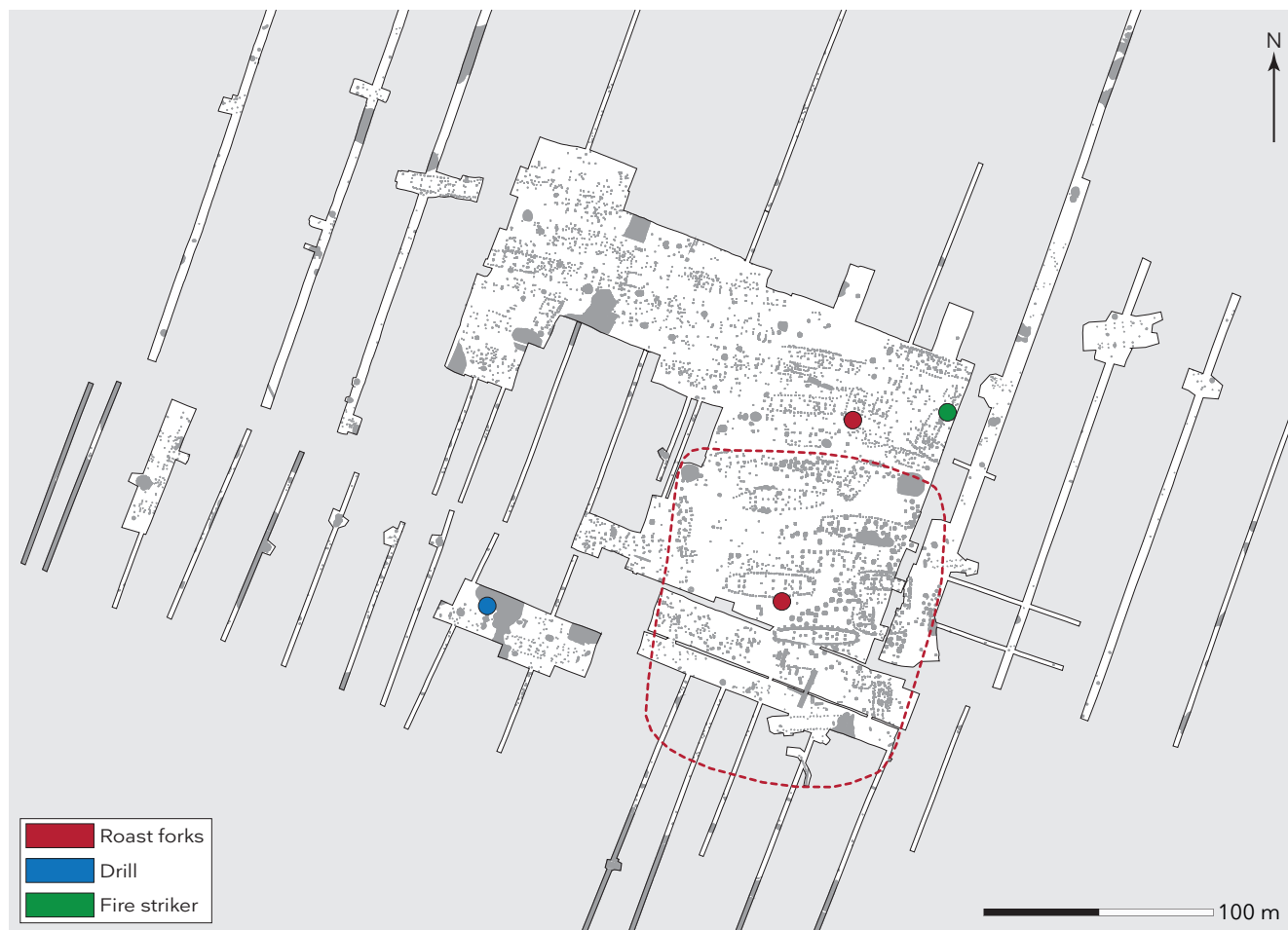


Fig. 8.7. Find sites of roast forks, drill and fire striker. Farm 1 with the great longhouses is shown with a dotted red line. Illustration: Museum Southeast Denmark.

pit, A13155 (Fig. 8.10), together with an arrowhead dated to the Viking Age.

Hasps

(Cat.nos 502–504, Fig. 8.11)

Three iron mounts may be hasps or fasteners from a casket or a coffer. One of them is a band-shaped iron object coiled at one end, which also features a boat-shaped perforation (cat.no 502). The mount was found in the same pit, A13155, as the possible handle registered as cat.no. 499. The pit is located east of Farm 4 (see Fig. 8.10). The same pit moreover yielded a hook-shaped item with a transverse iron rivet at the end opposite to the hook (cat.no. 503). It is possible that this, too, was part of the closing mechanism for a casket. In another pit, A13573, located within Farm 4, another hook-shaped item with an eyelet at the opposite end was found (cat.no. 504). A casket fastener from Aggersborg has a similar, albeit not identical, design (Madsen *et al.* 2014, 318, fig. 6.81 b).

Hooks

(Cat.nos 505–512, Fig. 8.11)

Cat.nos 505 is an iron object with a four-sided, broken-off rod that runs into a band-shaped hook, which is almost completely closed at one end. The hook was found in well A13010.

There are in total seven small hooks from Strøby Toftegård, some of which consist of just a folded iron rod. One rod, cat.no. 508, is 1.7 cm long and has a small eye and it may be a fishing hook or a clasp. The little fishing hook or clasp was found in pit house G102.

Rings for hanging or chain links

(Cat.nos 513–521, Fig. 8.12)

The rings or chain links that were found vary in size from c. 1 cm in diameter to 6.5 cm in diameter. Cat.no. 513 includes three small rings, two of which are joined, while cat.no. 514 consists of one large ring (c. 6.5 cm in diameter). On this



Fig. 8.8. Find sites of iron bars (blue dots). Farm 1 with the great longhouses is shown with a dotted red line. Illustration: Museum Southeast Denmark.

ring are placed a piece of iron, which is folded around the ring, and a figure-of-eight-shaped piece of iron, likewise folded around the ring.

The rings were found in various kinds of features, such as postholes, pits and wells, across the entire site.

Sockets

(Cat.nos 522–523, Fig. 8.12)

In a well, A13010, was found a fragment of an iron socket (cat.no. 522). The socket has a round cross section that tapers towards one end. The socket is broken off both lengthwise and crosswise, and it is not possible to ascertain what sort of object it originally belonged to.

Cat.no. 522 were found in well A13010, which is located at Farm 4 (Fig. 8.10).

Nails, rivets, and clench bolts

(Nails (cat.nos 524–574), clench bolts (cat.nos 575–592) and iron shanks (cat.nos 593–626), Fig. 8.12)

A large group of finds consisting of some 100 items from Strøby Toftegård comprises nails, rivets and clench bolts. The items in this group are categorised according to Davide Zori's division into nails, rivets and clench bolts (Zori 2007); additional to these are a large number fragments that are probably shanks with no heads, so it is not possible to distinguish them further. The category of nails includes items with a head and a shank made from a piece of iron. Rivets, like nails, are made from a single piece of iron, but they have a slightly domed head at one end and a hammered-out head at the other end. Clench bolts are similar to rivets but are equipped with a rove placed at the same end as the slightly domed head.

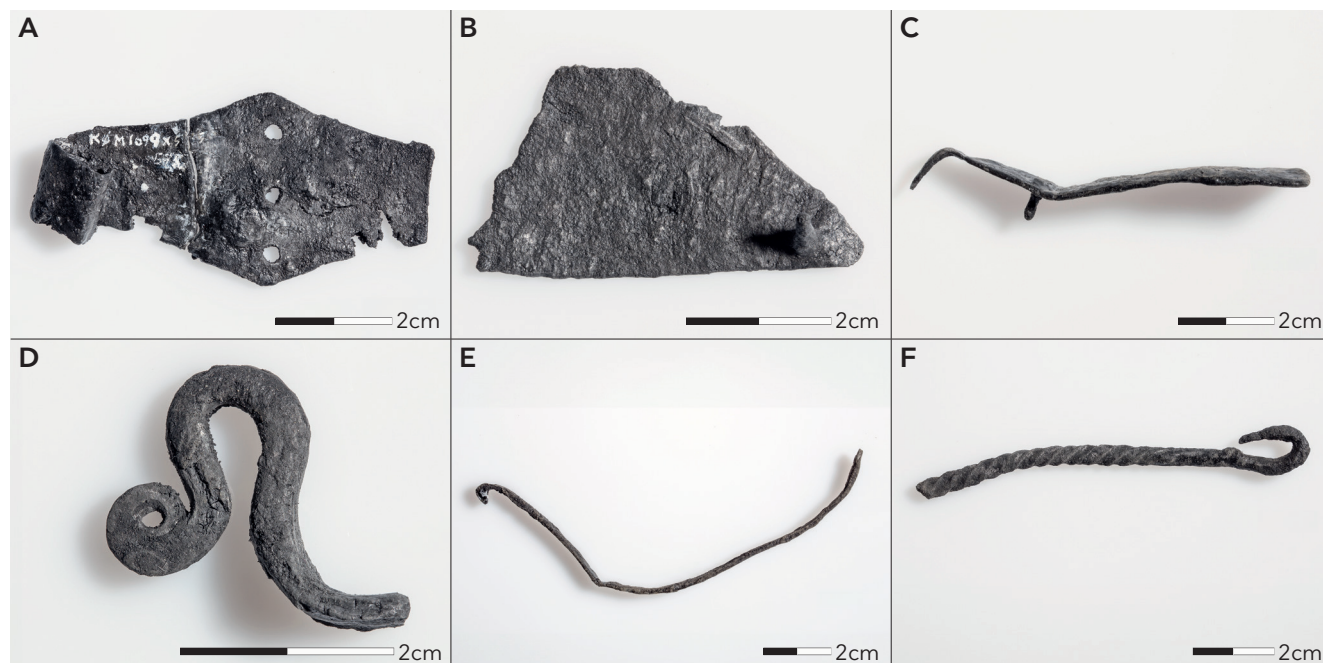


Fig. 8.9. Mounts, fittings, and possible handles from Strøby Toftegård. A: cat.no. 488, B: cat.no. 490, C: cat.no. 496, D: cat.no. 499, E: cat.no. 500, F: cat.no. 501. Photo: Jens Olsen, Museum Southeast Denmark.

Nails constitute the largest subgroup here, with 50 nails found in various features (Fig. 8.13). Additionally, a large number of nails were found in connection with the sieving of plough soil, but as it is not possible to date these exclusively on the basis of their appearances, they have merely been sketched and then discarded. Thus, in the present survey, primarily nails from various features are included in the catalogue. Only a few cases of nails from plough soil have been kept and conserved.

The nails are often fragmented and their original length can be hard to ascertain. Fully preserved nails, however, display great variation in terms of length, ranging from 1.6 cm to 6.9 cm.

Rivets and clench bolts comprise a smaller group of finds than nails, with a few rivets and 17 clench bolts or roves from clench bolts. Clench bolts are often associated with boat building, but they were also used for doors, chests and wagons (Ottaway 2004, 109). It is characteristic of clench bolts used for boat building that the rove is oblique in relation to the shank (Dobat & Roesdahl 2014, 264). This cannot be observed on the preserved clench bolts from Strøby Toftegård. The longest clench bolt (total length) is 6.7 cm. long, while the shortest is 2.43 cm. Most of the clench bolts are about 4 cm.

Also 34 iron shanks were found. By shanks is meant an elongated piece of iron with either a square or round cross section which in some cases tapers towards one end. These may be fragments of nails or spikes whose heads are not preserved or have not yet been hammered out.

Nails, clench bolts and rivets are found across the entire site and are not as such linked to specific types of features. Even so, five clench bolts were found in pit houses and another two clench bolts were found near House 3, which is one of the great longhouses.

Small items few in number and nondescript items (Cat.nos 627–676)

Catalogue numbers 627–676 refer to iron objects whose function cannot be determined due to fragmentation, or to small objects of which only few were found, such as a wedge, clasp, fastening and staples.

Summary pertaining to iron objects

To a large extent, the iron objects that were found are fragments and often it is not possible to determine what type of object the fragment was originally part of. A large group of items are the knives, which are mutually very different and show many signs of repeated sharpening. The presence of iron bars suggests that metalworking was done at the site, but the excavators did not focus on locating hammerscale in the features, and this makes it difficult to point out any area with traces of blacksmithing activities. In connection with sieving soil samples for scientific purposes, one pit was seen to contain hammerscale (Henriksen & Mortensen, Chapter 5). It is possible that other pits also contained hammerscale, but this has not been studied systematically.



Fig. 8.10. The location of pit house G104 and pit A10004, A12833, A13155 and A13010. In A13155 a handle, cat.no. 499, a flap, cat. no. 501, and a hook, cat.no. 502, were found. In pit A13010, among other things, two sockets, cat.nos 522 and 523, were found here. Illustration: Museum Southeast Denmark.



Fig. 8.11. Hooks or hasps. A: cat.no. 502, B: cat.no. 503, C: cat.no. 504, D: cat.no. 505. Photo: Jens Olsen, Museum Southeast Denmark.

Finds of handles and casket fastenings in pits and pit houses reveal that these were part of the inventory on the site, but observations regarding the placement of these finds within the pits and pit houses were only made in a few cases, and so it is not possible to determine whether these items constituted part of the inventory of the respective

features or whether they ended up there when the features were filled in.

The small iron objects found on site are distributed across Farm 1 as well as the remaining farm units, and there is no clear preponderance of these items in any one area.



Fig. 8.12: Top: Chain links and rings (A: cat.no. 513, B: cat.no. 514, C: cat.no. 520), middle: socket (D: cat.no. 522) and below: nail (E: cat.no. 526), clench (F: cat.no. 579) bolt and rivert (G: cat.no. 576). Photo: Jens Olsen, Museum Southeast Denmark.

Bone objects

Bone handles

(Cat.nos 677–678)

Two fragments of bone handles were found in a pit, A10004, and a pit house, G104 – one in either feature. Both handles are fragmented but originally had round cross sections. It is not possible to determine what objects the handles belonged to.

Die

(Cat.no. 679, Fig. 8.14)

In one pit house, G102, a bone die was found. The die is rectangular of shape and the pips are concentric circles on the oblong sides. The ends do not feature pips, and the spongy bone tissue is visible here. The die has three, four, five and six pips, respectively. Similar dice are known from Birka grave 644, (Arbman 1943, 220–226 and Tavle 148).

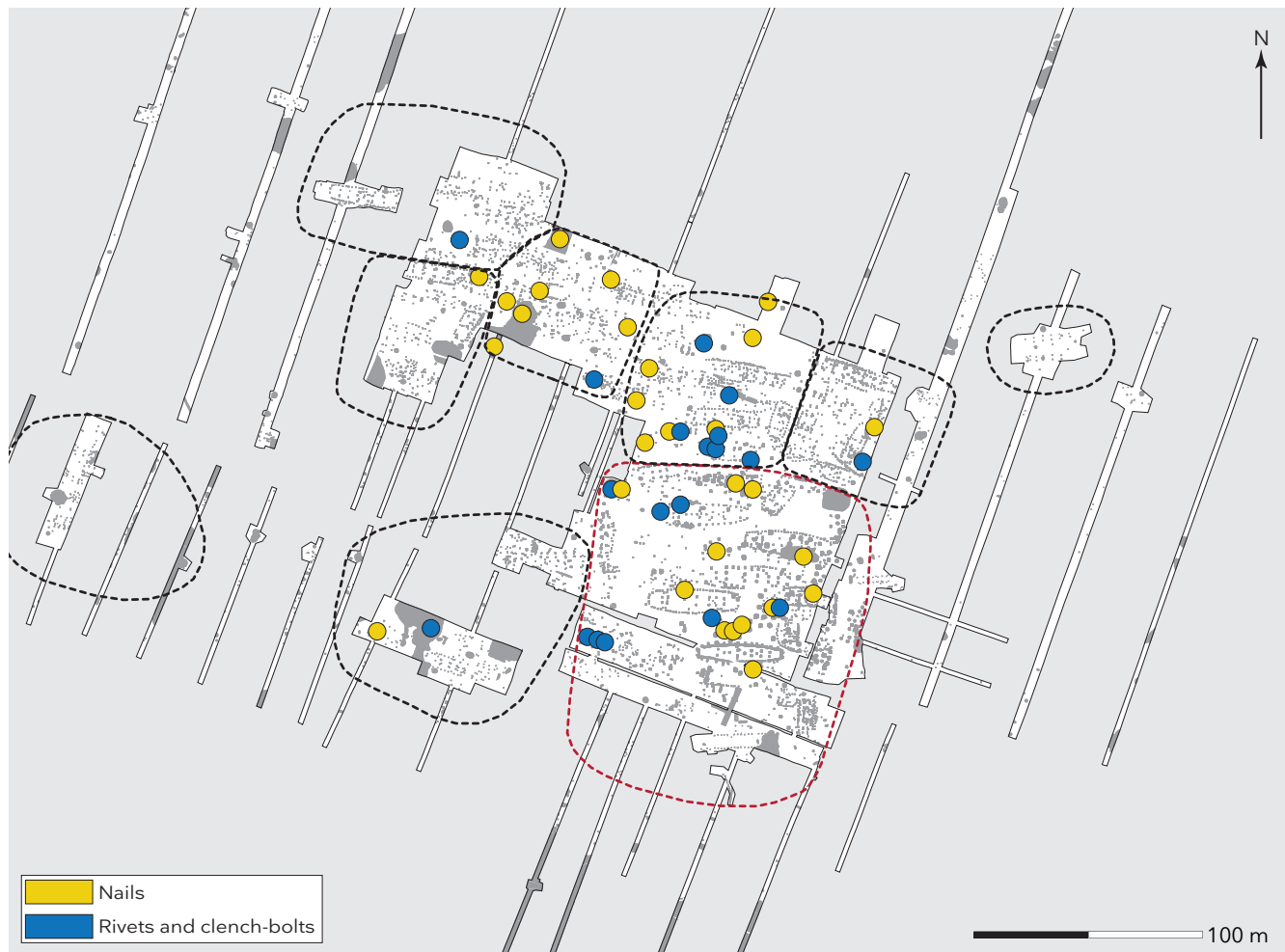


Fig. 8.13. The distribution of nails and rivets and clench-bolts at Strøby Toftegård. Farm 1 with the great longhouses is shown with a dotted red line. Illustration: Museum Southeast Denmark.

The pit house where the die was found is located towards the south within Farm 3.

The die, together with a now unfortunately lost gaming piece, testifies to games being part of life at Strøby Toftegård. The gaming piece is described simply as a 'sandstone gaming piece' and it was found in a well, A12833, located within Farm 4. This means that both the gaming piece and the die were found outwith the area of the great longhouses (see Fig. 8.10).

Combs

(Cat.nos 680–691, Fig. 8.14)

Parts of eight combs were found at Strøby Toftegård, most of which are small fragments of less than 5 cm. In addition, three teeth from combs were found. The material is described as bone, as no further analyses have been done. The combs are categorised according to Kristina Ambrosiani's type division into types A1-A3 and B1-B4 (Ambrosiani 1981).

In cases where a specific categorisation is possible, these are composite single combs consisting of three layers: two connecting plates and a middle piece with the teeth. The majority of the combs are decorated with concentric circles combined with ornamental lines. One comb appears to be almost intact, cat.no. 680. The comb has a convex back and the middle pieces are held in place by two connecting plates joined with six irregularly placed iron rivets. The comb is ornamented with two I's (Roman numerals) placed on either side of the iron rivet in the middle, and two parallel lines are visible along the edges. The comb thus falls within Ambrosiani's type A2, dated to the 9th–10th centuries, but more common in the 9th century (Ambrosiani 1981, 25). The comb was found in a pit house, A1724, located between Farm 1 and Farm 3.

In a soil-sieving trench near House 2, the plough soil yielded a fragment of a composite single comb (cat.no. 681), which is ornamented with three vertical lines flanked by concentric circles in each of the corners. A similar comb

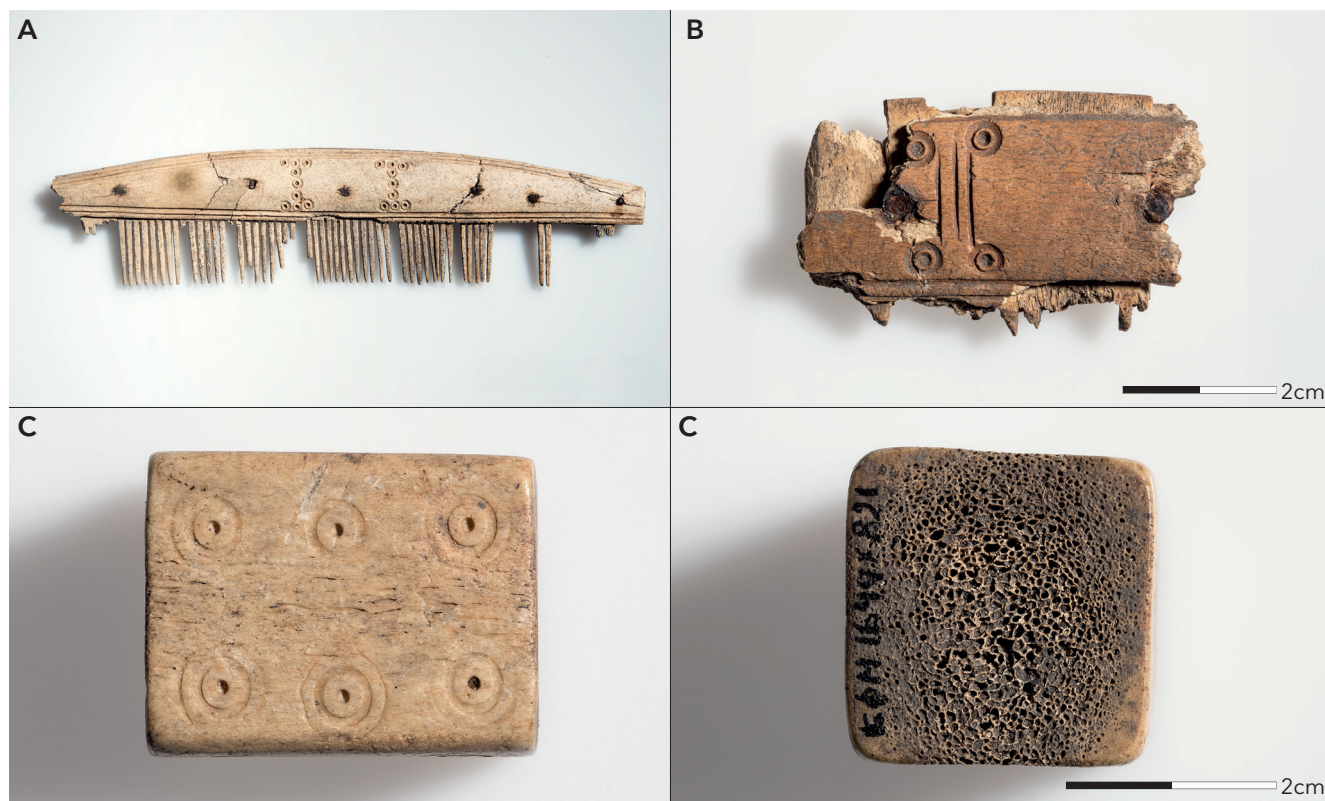


Fig. 8.14: Combs (A: cat.no. 680, B: cat.no. 681) and die (C: cat.no. 679). Photo: Jens Olsen, Museum Southeast Denmark.

was found at Elisenhof in Schleswig-Holstein (Tempel 1979, 157), another at Vester Egesborg near Næstved (Ulriksen 2018) and one in grave 15 on Helgö (Melin & Sigvallius 2001, 74). The comb belongs to Ambrosiani's type A2, which is usually from the 9th century but also appears in earlier and later periods. Several fragments feature similar decoration with a combination of lines and concentric circles, but only small fragments have been preserved, and it is not possible to classify the combs any further (cat.nos 682–684 and cat.nos 687–688).

A small fragment of a possible comb is decorated with densely placed vertical and oblique lines (cat.no. 686) and this probably belongs to Ambrosiani's comb type B. It may, however, also be a fragment of a casing for a comb, as the item is relatively narrow. Combs of type B occur at Birka from AD 900 onwards (Ambrosiani 1981, 25).

The comb fragments are not linked to specific types of features and are found within both Farm 1 and the remaining farm units, although especially in the north-western corner of the excavation of Farm 4 (Fig. 8.15).

The combs found at Strøby Toftegård are mainly fragmentarily preserved and must be regarded as accidentally lost or discarded items that have ended up in pits and wells in connection with filling these. There are no traces of comb production at Strøby Toftegård.

Textile tools

Needles

(Cat.nos 692–695, Fig. 8.16)

Needles are very sparsely represented at Strøby Toftegård, with only one needle head (cat.no. 692) and three possible needles (cat.nos 693–695) found. The needle head cat.no. 692 has an arched profile and is decorated with incised diamond shapes. The needle head was found in pit house G102, which also yielded a sandstone spindle whorl (cat.no. 710), which may indicate that textile production was carried out in the pit house. The three remaining (possible) needles have no decoration and were found in wells and pit houses.

Stiletos

(Cat.nos 696–700, Fig. 8.16)

Five stiletos or fragments of stiletos were found. The stiletos are roughly carved and were found in various pits, wells and pit houses.

Spindle whorls

(Cat.nos 701–718, Fig. 8.16)

Strøby Toftegård yielded 17 spindle whorls, two of which are made of lead, 12 of sandstone, two of clay and one of bone.

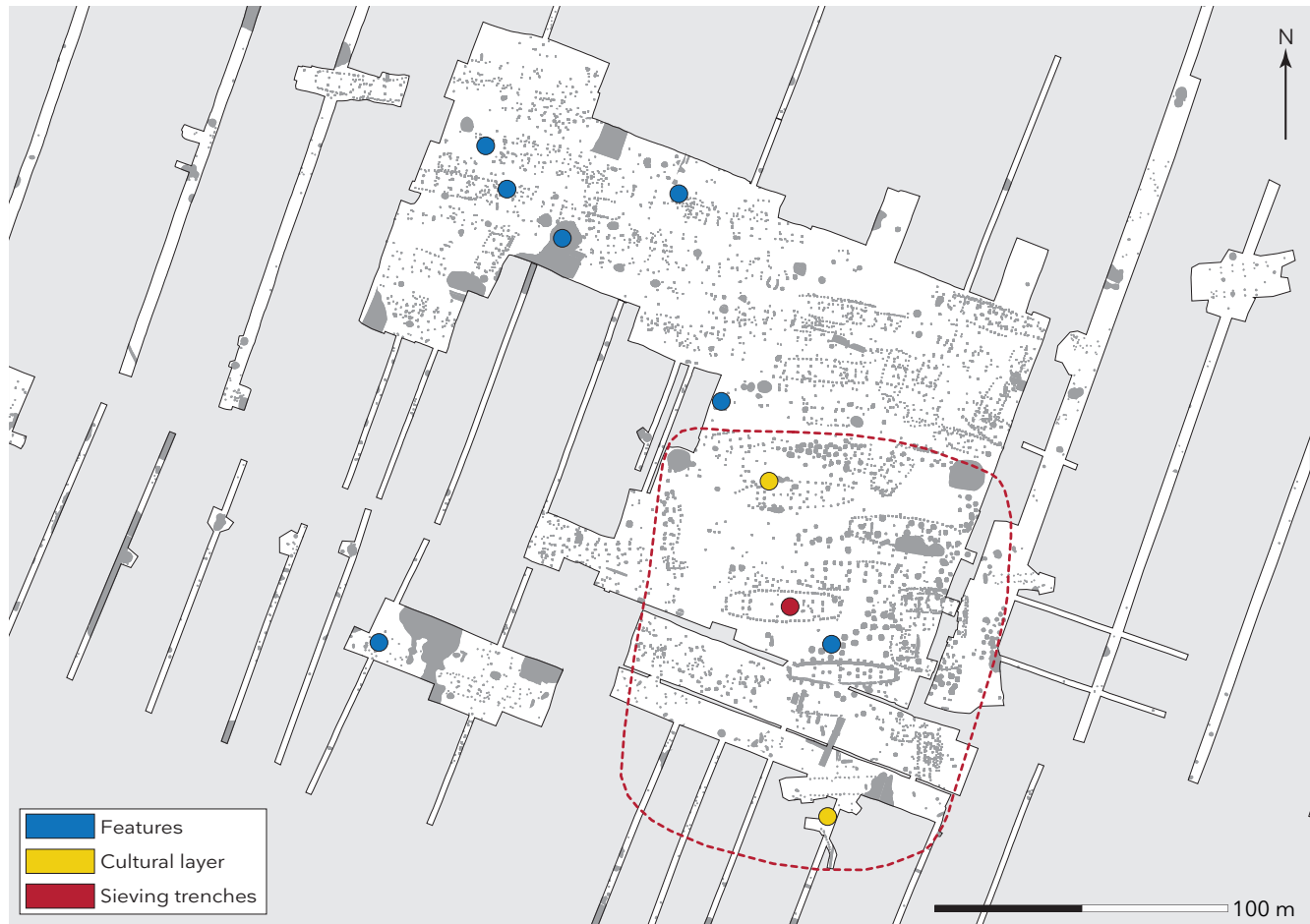


Fig. 8.15. The distribution of combs across the site. The colours represent the circumstances of the find. Combs are found at both Farm 1 and the other farm units. Farm 1 with the great longhouses is shown with a dotted red line. Illustration: Museum Southeast Denmark.

The two lead spindle whorls have diameters of, respectively, 1.4 and 1.9 cm. They are conically shaped and have centrally located holes. Lead spindle whorls have a late dating compared to the settlement at Strøby Toftegård, being dated to the Early Middle Ages (L.G. Thomsen, pers. comm.). Both are stray finds.

In all 12 spindle whorls made of sandstone were found (cat.nos 703–714), ten of which are disc-shaped and four of these are decorated with grooves encircling the side or upper surface. Two sandstone spindle whorls are domed and one of these is decorated with grooves encircling the sides and upper surface.

Two of the spindle whorls are made of clay. One of these is asymmetrical biconical, while the other is disc-shaped and only a small fragment of it is preserved. About half of a spindle whorl made of bone is preserved.

Six of the spindle whorls were found in pit houses, two in wells and one in a pit. Seven were either stray finds or were found in soil-sieving trenches.

Loom weights

(Cat.nos 719–735, Fig. 8.16)

A total of 17 loom weights were found, all made of burnt clay and more or less fragmented. Two of the loom weights, cat.nos 702 and 703, were part of a set since they both carry a small stamped-in mark consisting of four little incisions. Originally, at least one more loom weight was part of this set, but this has been lost. The loom weights were found in pits and postholes, as well as in two pit houses, and in both cases more than one loom weight was located in the same pit house. The loom weights were discovered both at Farm 1 and at the other farm units. Outwith Farm 1 they are only found in pit houses, whereas within Farm 1 they are found towards the south-east, near House 3, in postholes and pits (Fig. 8.17).

Summary pertaining to textile tools

Items linked to textile production were found both at Farm 1 and at the other farm units. Outwith Farm 1, the looms



Fig. 8.16. Textile tools from Strøby Toftegård needle head (A: cat.no. 692), stiletto (B: cat.no. 696), spindle whorls (C: cat.no. 705, D: cat.no. 708, E: cat.no. 707, F: cat.no. 703, G: cat.no. 714, H: cat.no. 702) and loom weight (I: cat.no. 730). Photo: Jens Olsen, Museum Southeast Denmark.

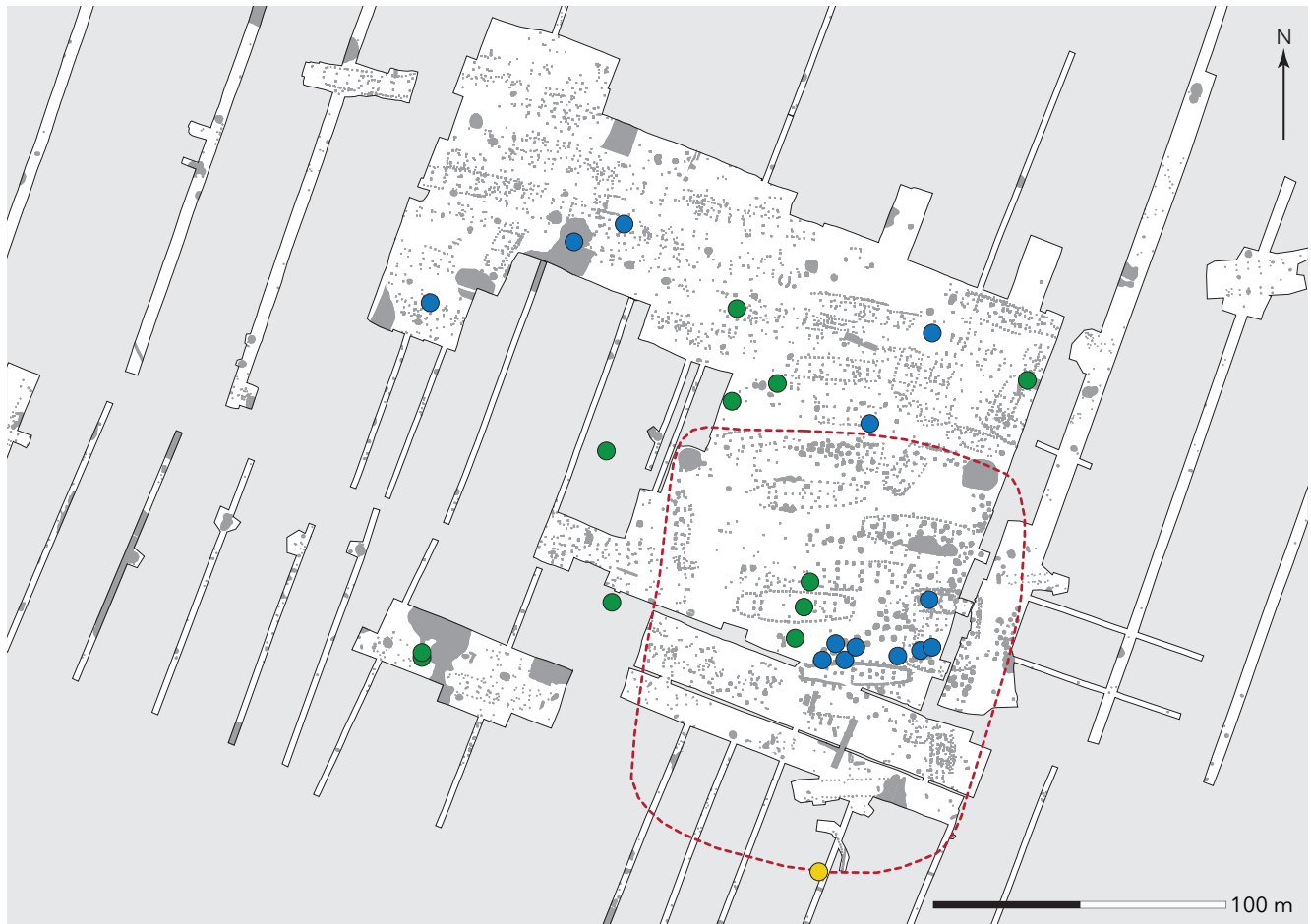


Fig. 8.17. The distribution of spindle whorls (green) and loom weights (blue) at Strøby Toftegård. Farm 1 with the great longhouses is shown with a dotted red line. The yellow dot represents the spindle whorl made from lead. Illustration: Museum Southeast Denmark.



Fig. 8.18. Selected whetstones from Strøby Toftegård (cat.nos 735 and 743). Photo: Jens Olsen, Museum Southeast Denmark.

were likely part of the tools used in the pit houses, which have also revealed postholes that may stem from warp-weighted looms. Spindle whorls, needles and stilettoes have a wider distribution across the site and are not linked to specific types of features or areas. Even so, a preponderance of spindle whorls has come out of pit houses compared to other types of features.

The traces of textile production at Strøby Toftegård comprise limited material, suggesting that the production covered the inhabitants' own needs. Lone Gebauer Thomsen argues that the spindle whorls deviate from the spindle

whorls commonly found at agrarian settlement sites in that they are relatively light and were thus used for the production of thin threads intended for high-status garments (L.G. Thomsen, pers. comm.).

Stone objects

Whetstones

(Cat.nos 735–766, Fig. 8.18)

Of whetstones, a total of 32 were found at Strøby Toftegård, made either of sandstone (19 specimens) or slate (13). Many of these whetstones are only preserved as minor fragments (under 5 cm), but a few are more than 10 cm long.

One whetstone (cat.no. 736) features the remains of a piercing at one end, and another (cat.no. 743) has a groove that may have been intended for sharpening needles or hooks.

Of the whetstones, 22 were discovered in soil-sieving trenches or as stray finds, but the remaining ten were found in wells, pits and postholes. The distribution of the



Fig. 8.19. The distribution of whetstones across the site. Farm 1 is shown with a dotted red line. Many whetstones were found in connection with especially sieving of plough soil, which shows clearly in the image where the whetstones cluster around the soil-sieving trenches pertaining to Farm 1. Illustration: Museum Southeast Denmark.

whetstones is thus distorted by the excavation method where especially the plough soil from Farm 1 was sieved. Had this not been done, the picture may have been more even for all farm units (Fig. 8.19).

Quern stones

(Cat.nos 767–769)

Three features yielded fragments of altogether four quern stones. In three cases, a hole has been drilled through the middle of the stones, which reveals that these were hand querns. The quern stones are made of rocks and all of them are fragments, with some representing the same one quern stone.

The quern stones were found in a pit (A10005) and two postholes (A10254 and A11727). The pit and posthole A10254 are located within Farm 1, while posthole A11727 lies within Farm 3 immediately north of Farm 1 (Fig. 8.20). None of the quern stones are preserved intact and, having been discarded, they may have been used to stabilise the posts in the postholes.

Both whetstones and quern stones were found either in greater numbers at or exclusively within Farm 1. Regarding

the whetstones, this may be due to the excavation methods, since many were found in soil-sieving trenches from Farm 1.

Casting mould for bronze casting

(Cat.nos 770–771, Fig. 8.21)

Two fragments of clay casting moulds were found at Strøby Toftegård. In one of these, an imprint can be discerned (cat. no. 771). Judging by the shape of the imprint, this was probably a casting mould for the production of a beak brooch. The other casting-mould fragment has no characteristics (cat.no. 770), but it was found in a pit that also contained a fragment of an Insular hanging bowl dated to the Viking Age.

Both casting moulds were found in pits, cat.no. 771 in A10470 and cat.no. 770 in A10545 (Fig. 8.22). These pits are located within Farm 1 immediately east of the great longhouses of House 2 and House 4. The fact that both casting moulds were found in the area with the great longhouses suggests that the production of metal items was closely linked to the magnate.

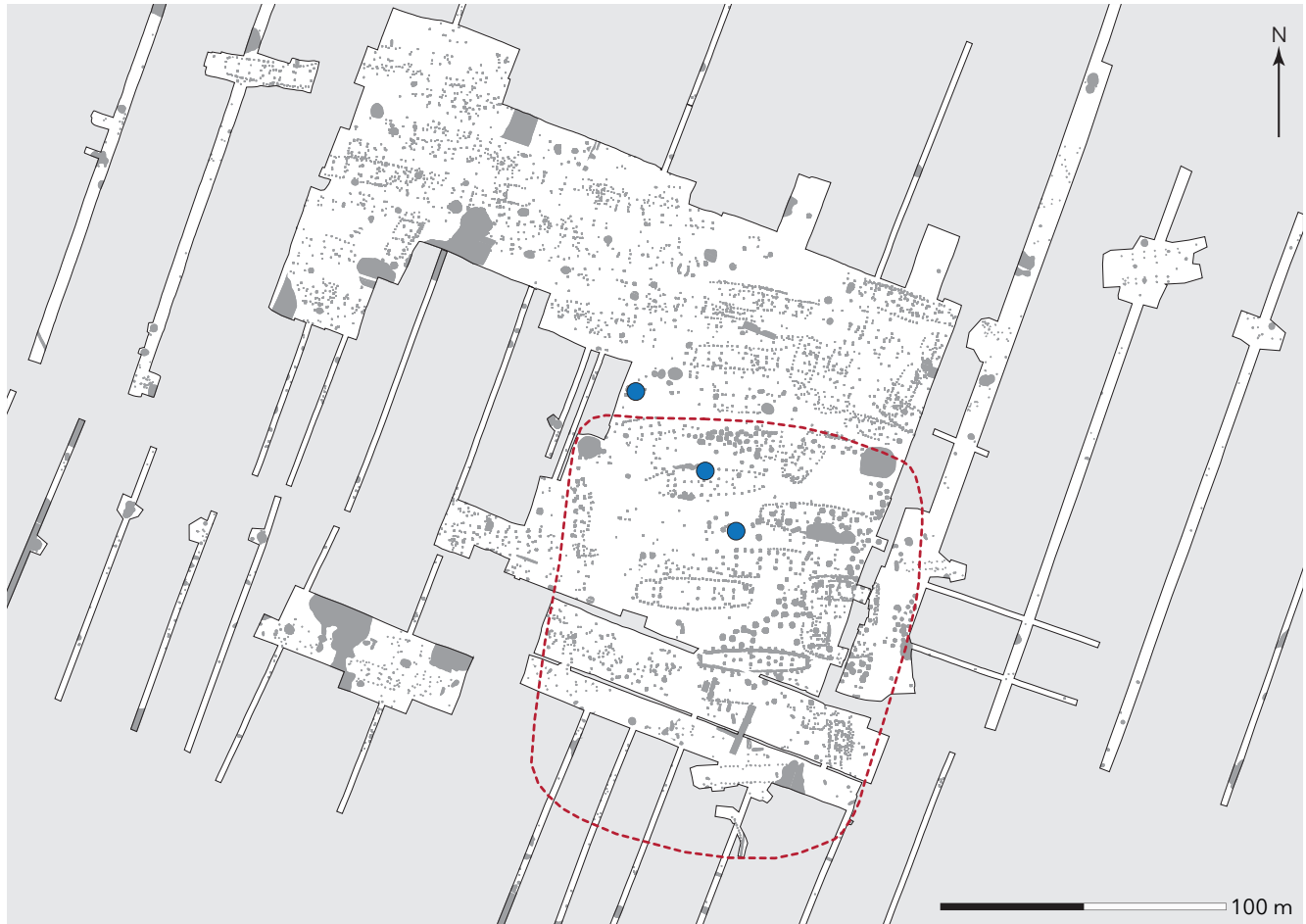


Fig. 8.20. The distribution of quern stones. Farm 1 with the great longhouses is shown with a dotted red line. Illustration: Museum Southeast Denmark.



Fig. 8.21. Fragment of casting moulds (cat.no. 770), which shows the imprint of a jewellery item; it was probably used to produce a beak brooch. Photo: Jens Olsen, Museum Southeast Denmark.

Pottery and soapstone vessels

Pottery

In total, 1828 pieces of pottery were found in connection with the excavations at Strøby Toftegård. Chronologically, the pottery spans a timeframe from Early Neolithic pottery to Baltic Ware. However, the vast majority is dated to the

Late Iron Age and comprises undecorated settlement pottery together with Baltic Ware pottery types and stamp-decorated pottery.

Pottery was found in 268 features, in 26 soil-sieving trenches and four pieces of pottery were located as stray finds. The pottery was primarily found in pits, but also wells, pit houses and postholes yielded some pottery. The



Fig. 8.22. The distribution of casting moulds. Both casting moulds were found in pits within Farm 1, which is shown with a dotted red line. Illustration: Museum Southeast Denmark.

pottery is very diverse, and often only a few pieces were found together. By far most of the sherds are less than 10 cm and larger fragments of a vessel are preserved only in a few cases. Generally, the number of ceramic sherds seems fairly small considering that the site was intensively settled for at least 400 years, from the 6th to the 10th centuries, and given the fact that many features were sieved. The long period of settlement on the same site likewise complicates the ability to date the pottery on the basis of the circumstances of the finds, since there may well be a mixture of older items having ended up in younger features in connection with filling these in. Even so, the pottery is presented here, and perhaps subsequent studies of well-defined contexts may be able to refine the chronological development of pottery during the Late Iron Age.

In some cases, pottery from Strøby Toftegård has been allocated separate find numbers, but many items are included in find numbers that may cover several different pottery items and distinct vessels. No catalogue listing all sherds has been constructed, but the text below presents selected

sections of the complete pottery picture, and the items have retained their original item numbers.

Neolithic and Bronze Age pottery

Several pits contained pottery from the Late Neolithic, which in some cases presumably dates the feature to that period, whereas in other cases the pottery must have accidentally ended up in a later feature. In A10545, for instance, Neolithic pottery was found together with Viking Age items. A11058, on the other hand, is a Neolithic pit containing some 100 sherds together with several flint flakes. The pottery is distinguished from other pottery by being light reddish-brown, sometimes very roughly tempered and softly fired.

In connection with the excavations of the Late Iron Age settlement, also five urn burials from the Late Bronze Age were excavated. In most cases, the urns were severely damaged and fractured. The presence of pottery from the Late Neolithic and Bronze Age emphasises that the area was inhabited prior to the establishment of the Late Iron



Fig. 8.23. Examples of vertical rims. A: found in cooking pit A10469, B: pit A13155 and C: found in cooking pit A14008. Photo: Jens Olsen, Museum Southeast Denmark.

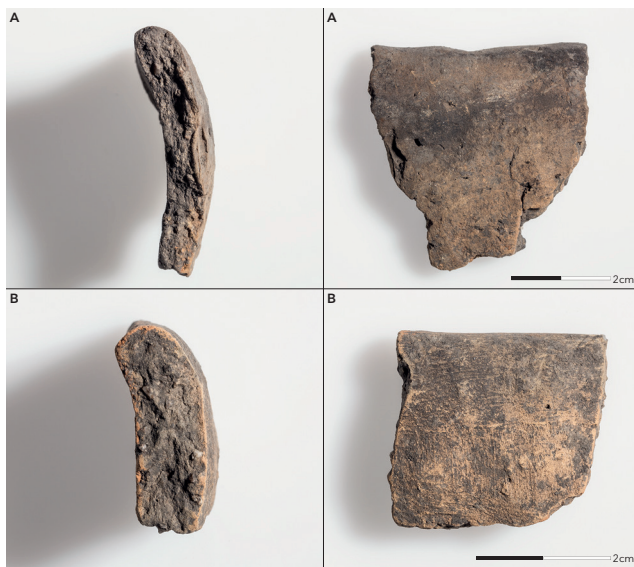


Fig. 8.24. Examples of inward-curved rims. Found in cooking pit A10001. Photo: Jens Olsen, Museum Southeast Denmark.

Age magnate settlement. However, no sherds were found that can be definitively dated to the Early Iron Age (Woller 1998, 90).

Undecorated pottery from the Late Germanic Iron Age and Viking Age

The items vary from rough to medium tempered, often with visible tempering, and the firing varies from softly to

medium fired. The colour of the sherds also varies somewhat; some have a reddish-brown inside and outside while others are greyish black on both sides. Additionally, there are combinations of these colourings. A few of the undecorated sherds stand out by being relatively thin, but generally the pottery is somewhat rough.

The rim shape of undecorated, Late Iron Age pottery from the eastern part of the Danish area comprises a broad range and it has proved difficult to establish any chronological development of how the rims are shaped (Ulriksen 2018, 188). In all, 134 undecorated rim sherds were found at Strøby Toftegård, and these sherds are roughly equally distributed into those with inward-curved rims (51 sherds) and those with vertical ones (41 sherds), while only a few have everted rims. The shape of the rim also varies quite a lot, from evenly rounded to drawn out or obliquely angled.

The shapes of the vertical rims vary from thick, roughly tempered ware whose sides extend directly into the rim, other rims taper slightly and the belly of the vessel is more rounded (Fig. 8.23). In cases where vertical rims have been found together with sherds from bottoms, the bottoms are flat but have no clearly marked base.

Inward-curved rim sherds, too, display great variety in how the rims are shaped. Most are slightly inward-curved and rounded rims. Others are slightly rounded and pressed together so that they form a tapering rim. Yet others are cut off and appear sharply edged (Fig. 8.24).

Only two sherds feature everted rims. XI10294 is a small everted and tapering rim sherd. The other sherd has a slightly thickened and everted rim profile (Fig. 8.25).



Fig. 8.25. Only few of the rim sherds are everted. Found in cooking pit A10294. Photo: Jens Olsen, Museum Southeast Denmark.

In total, 45 sherds from pottery bottoms were found, nine of which have a clearly marked base, ten have no clear transition between the base and the side of the vessel, while the situation with the remaining 26 base sherds is a simple categorisation of them as base sherds (Fig. 8.26). No impressed marks were found on the outside of any of these sherds and none of them are rounded the way semi-spherical vessels from the Jutland area are.

The undecorated pottery from Strøby Toftegård ranges widely in terms of shape and looks, although vessels with everted rims are only sparsely represented. The pottery is often just small fragments though some larger sherds were found (Fig. 8.27). As mentioned above, it cannot be excluded that pottery items from disparate periods of the extended timespan during which the site was inhabited have been mixed together. However, it must be emphasised again that no pottery dated unequivocally to the Early Iron Age was found. There are Neolithic sherds and some from Bronze-Age urns, but the absence of Early Iron Age pottery shows, as do also the metal objects (Baastrup, Chapter 7), that the magnate site is only established in the Late Iron Age.

Stamp-decorated pottery

In Denmark, stamp-decorated pottery is generally dated to the Late Iron Age and the Viking Age, although individual finds are known from the Early Roman Iron Age in northern Germany (Madsen & Sindbæk 2014, 279). The sherds found at Strøby Toftegård carry different designs of stamped-in decorations.

Seven sherds feature stamped-in hatched ovals (filled with three to four lines) (Fig. 8.28). They were found in a pit, A13155, and a posthole, A13157, both located north of the area with the great longhouses. The pottery is medium tempered and medium fired, and the outside varies from reddish brown to greyish brown, while the inside and the break are greyish brown. The modest size of the sherds makes it impossible to determine how the stamped-in decorations were arranged. The largest of the sherds features two rows of stamps opposite one another, about 1.5 cm apart. The pottery with stamped-in hatched ovals were found in pit A13155 and posthole A13157. No further finds were made in posthole A13157, nor is the posthole part of any recognised structure. Pit and posthole are about 6 m apart in Farm 4 north of the great longhouses. In pit A13155 were found a good number of bones, an arrowhead, fittings, a knife, a stiletto, a flap for a casket, glass sherds and Baltic Ware. The arrowhead is dated to the Viking Age (Baastrup, Chapter 7, cat.no. 285). At Aggersborg in northern Jutland were found sherds with stamps that recall the ones described here, although the ones from Aggersborg feature a division of the stamp running lengthwise just around the middle (Madsen & Sindbæk 2014, 276, fig. 6.21 h).

Also sherds featuring wheel crosses and combinations of wheel crosses, rosettes and circular stamps with lattice motifs were found (Fig. 8.28). A rim sherd with stamped-in wheel crosses was found in pit A10698, which also yielded several iron objects that cannot be dated more precisely. Another sherd is decorated with a combination of wheel crosses, rosette(s) and circles filled with lattice motif. This sherd, which measures about 5 × 4 cm, is thin and relatively finely tempered, hard fired and, in terms of both decoration and quality, it stands out from the remaining pottery found at Strøby Toftegård. The sherd is assumed to stem from a fairly small vessel or a cup because it curves considerably. It was found in posthole A10335, which is part of House 5. Two ¹⁴C-datings place House 5 in the Late Germanic Iron Age, between AD 650 and 770.

In pit house G102 were found several sherds, among these rim sherds with slightly outward-flared rim with little stamped-in circles (Fig. 8.28). Parallels to this type of ornamentation is known from, *inter alia*, Lindholm Høje grave 1456 (Ramskou 1976, 63, Fig. 205), from excavations of deposits from the 8th and 9th centuries in Ribe (Madsen 2004, fig. 23) and also from Trelleborg in Zealand (Nørlund 1948, Tavle XIV). The same pit house also yielded a significant faunal material, as well as several iron objects alongside rock crystal and glass beads and several sherds of pottery with no special characteristics.

A single sherd is decorated with little stamped-in squares in patterns with four stamps together (Fig. 8.28). Pottery with similar ornamentation is known from places such as Lindholm Høje grave 605 and grave 2178 and the excavations in Ribe (Madsen 2004, 251, fig. 27), as well as Århus



Fig. 8.26. Some of the base sherds found at Strøby Toftegård have a rounded transition between the base and the side, others have a clearly marked transition between base and side. The picture shows examples of base sherds with and without clearly marked transitions. Photo: Jens Olsen, Museum Southeast Denmark.

Søndervold (Andersen *et al.* 1971, 85, fig. 79). The sherd was found in posthole A11839, which is not part of any recognised structure, but which is placed north of the great longhouses and within Farm 2.

Baltic Ware

At Strøby Toftegård, 42 pieces of pottery were found that, judging from the ornamentation, qualify as Baltic Ware. They comprise about 2.3% of the total number of sherds from the site. These are primarily from pottery of the Middle Slavonic period, *cf.* Schuldt's division into early, mid and late Slavonic pottery (Schuldt 1964). Pottery of the Baltic Ware type was found in both soil-sieving trenches

and in features, but mainly as stray finds within Farm 1 (Fig. 8.29).

The designation Baltic Ware covers ceramics inspired by Slavic pottery-making traditions or ceramics imported from the Slavic area. The material has not been analysed with a view to ascertaining whether this is locally made or imported pottery.

An example of pottery that stands out from the settlement ceramics is a roughly tempered type of ware with visible temper, relatively hard fired and with a more even surface than the ordinary settlement pottery (x162, x168, x182, x197 and x202, Fig. 8.30). Rim sherds feature a slightly thickened rim section under which narrow bands



Fig. 8.27. Large fragment of pottery found in well A13231. Photo: Jens Olsen, Museum Southeast Denmark.

of waves are seen. This type is late Fresendorf and is known from the north German areas of Mecklenburg and Holstein. In these places, similar pottery is known from around AD 950 (pers. comm. Dr Frank Wietzichowski, Bodendenkmalpflege Mecklenburg-Vorpommern). Pottery of this type was primarily found in the plough soil in connection with sieving square-metre sections in the area around the great longhouses. The type was moreover found in the pits A10545 and A10559, also located within Farm 1 and near the great longhouses. Pit A10545 moreover contained a fragment of an Insular hanging bowl dated to AD 750/775–820/830 (Sørensen 2002, 182). One explanation for the significant time gap between the hanging bowl and the pottery is that the hanging bowl was a very valuable and unusual item that was likely used through several generations.

The Baltic Ware is primarily ornamented in the mid-Slavic style, with bands of waves and comb-tooth imprints, and most of the sherds are of Fresendorf type, but there are also a few sherds of Feldberg type, Menkendorf type and one possible fragment of Woldegk type (Fig. 8.31).

The pottery was found in postholes, pits and pit houses across the entire site, but most of the Baltic Ware type came out of Farm 1 with the great longhouses.

Considering the many features that have been excavated and, in many cases, also sieved, a relatively small and often very fragmented amount of pottery was found at Strøby Toftegård. It should be noted that no pottery was found that

can be unequivocally dated to the Early Iron Age, nor is for example late Slavic pottery represented.

Selected features containing pottery

In one pit house, G105, several fragments were found of a vessel that stands out from the typically medium-to-rough tempered and medium-fired pottery from Strøby Toftegård. This is an almost 10-cm-tall vessel with a rounded belly and inward-curved rim. The rim is slightly thinner compared to the body and it is evenly cut off so that it has sharp edges. Immediately below the rim is a section about 2.5 cm wide with irregular lines running round the vessel. The vessel is fairly thin and hard fired, while the tempering is rough and has visible temper (Fig. 8.32). The remaining finds from the pit house include iron fragments and at least three loom weights of burnt clay. The objects are broadly dated to the Late Germanic Iron Age into the Viking Age.

In one of the wells, A13010, were found 90 side sherds, three side/base sherds and 15 rim sherds that come from different vessels. Most of the side sherds are small fragments, though also one large fragment was preserved (Fig. 8.33). The pottery varies from light reddish brown medium tempered and rather hard fired to a more roughly tempered, greyish-black type. The rims vary from being inward-curved with sharp edges for the light, well-fired type to straight-angled and slightly tapered rims that run into a rounded belly on the more lightly fired type. Two very small sherds are decorated with, respectively, an added strip just below the rim and two incised grooves. However, these two sherds are very small and it is hard to say anything about the shape of their rims. They may resemble sherds of Baltic Ware.

In the well located within Farm 3, north of the great longhouses, among other things a bird brooch was found (Baastrup, Chapter 7, cat.no. 27), dated to the Late Germanic Iron Age phase 1D, but, considering the Baltic Ware pottery, the brooch is likely an older item in a younger well.

In pit A10001 were found 52 side sherds and 10 rim sherds from various different vessels. The shapes of the rims are inward curved as well as vertical, and there is a single small rim sherd with incised grooves that presumably comes from a Baltic-ware type vessel (Fig. 8.34).

Apart from pottery, also three glass beads were found, two of which likely stem from the Late Germanic Iron Age (Sode, Chapter 10, x50 and x59), while the third is only broadly dated to the Late Iron Age (Sode, Chapter 10, x52). Also an arrowhead dated to the Viking Age was found (Baastrup, Chapter 7, cat.no. 282). It is possible that the beads were used over an extended period of time and only ended up in the pit at the same time as the arrowhead. In pit A10004 were found several undecorated side sherds and two rim sherds, likewise undecorated and both with vertical rims. In A10004 were also found the fragments of



Fig. 8.28. Stamp-decorated pottery from Strøby Toftegård. Top: stamped-in circles (pit house G102) and stamped-in squares, arranged in groups of four (posthole A11839). Below: stamped-in hatched ovals (containing three transverse lines) (posthole A13157) and sherd with a combination of stamped-in decorations in the shape of wheel crosses and circle with lattice motifs (posthole A10335). Photo: Jens Olsen, Museum Southeast Denmark.

a comb (cat.no. 682) as well as an iron key (cat.no.415) dated to the Viking Age.

Soapstone

Three fragments of soapstone vessels were found in a posthole (A10257), a pit (A11083) and as a stray find, respectively, and all three within Farm 1. Soapstone does not occur naturally in the Danish area, so these must be imports. No analyses have been done to determine where the soapstone comes from, but studies of soapstone vessels from, for example, Hedeby show a great likeness with finds

from south-eastern Norway and south-western Sweden. But soapstone is also mined in Scotland, the Shetland Isles and Greenland (Gjørstein & Askvik 2014, 294).

A fragment of a soapstone vessel was found in a posthole from one of the great longhouses, House 5, from which ^{14}C -dating of bone material is available. With 95% certainty, these dates are AD 647–767 and AD 657–769. House 5 is regarded as the first of the great longhouses at Strøby Toftegård and it was probably built already in the Late Germanic Iron Age. Soapstone vessels occur at several sites after c. AD 800 (Sindbæk 2005, 137; Feveile & Jensen



Fig. 8.29. The distribution of Baltic Ware across the site. Illustration: Museum Southeast Denmark.

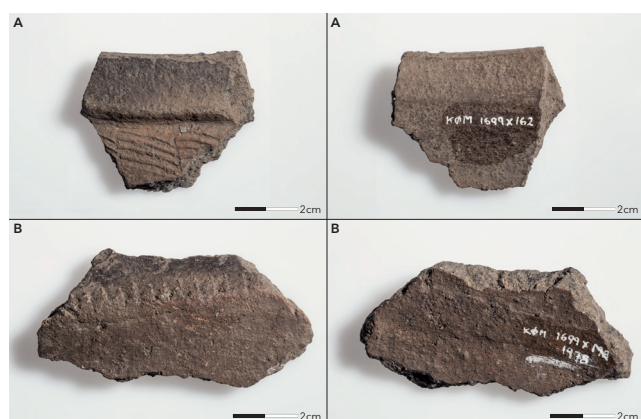


Fig. 8.30. Baltic Ware probably imported from the north German area since it stands out from the remaining pottery at Strøby Toftegård in terms of its tempering. Photo: Jens Olsen, Museum Southeast Denmark.



Fig. 8.31. Selected Baltic Ware from Strøby Toftegård. Top: Pottery of the Feldberg type found in A10193, a posthole in House 1 (one of the great longhouses at Farm 1). Below: pottery of Fresendorf type found in pit A10545 (located inside Farm 1). Photo: Jens Olsen, Museum Southeast Denmark.



Fig. 8.32. Side of a pottery vessels found in pit house G105 within Farm 4. Photo: Jens Olsen, Museum Southeast Denmark.

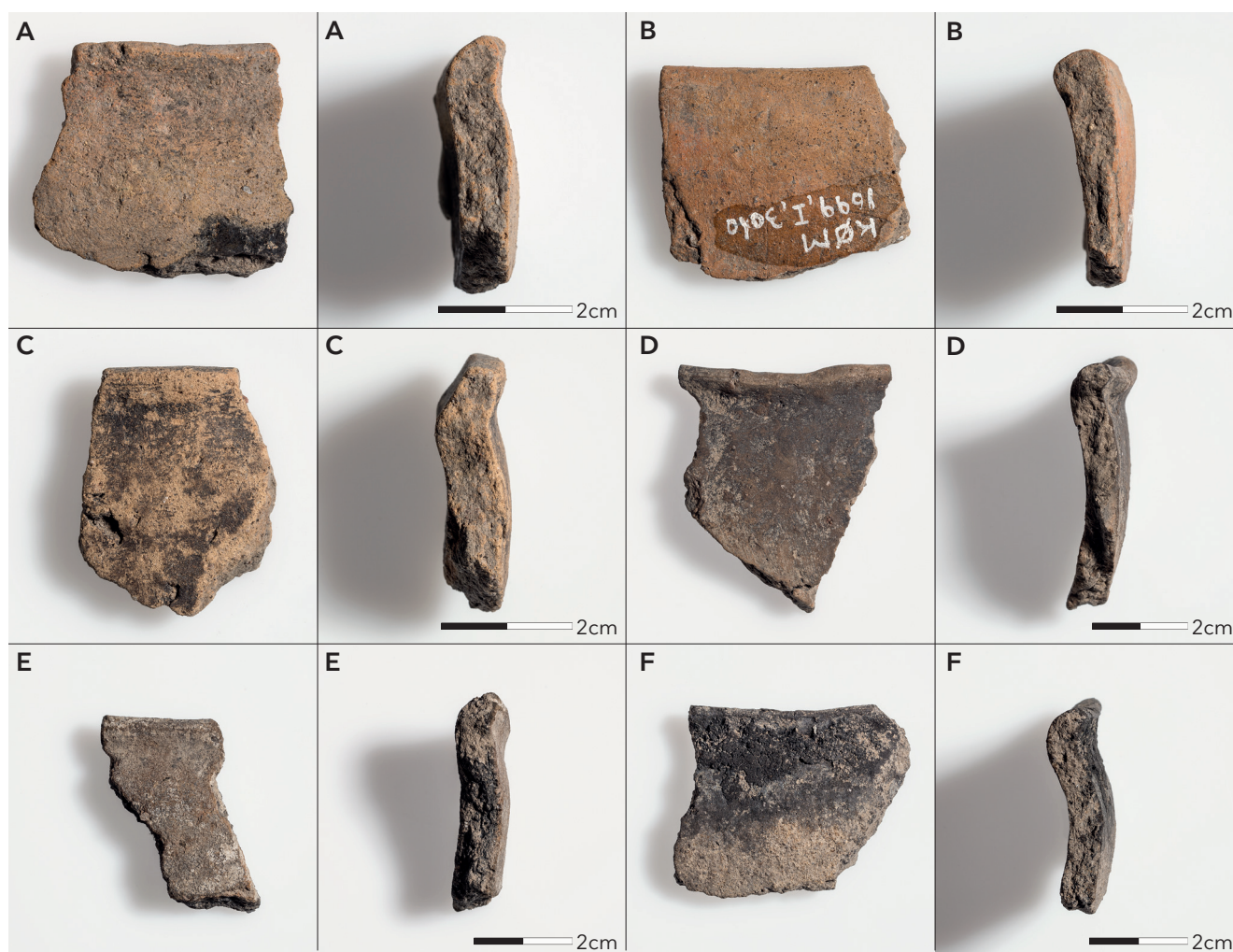


Fig. 8.33. Pottery from the well A13010 within Farm 3. The pottery is very diverse in both design and tempering. Photo: Jens Olsen, Museum Southeast Denmark.



Fig. 8.34. In cooking pit A10001 (Farm 1) were found several different pottery vessels, as well as items such as glass beads and an arrowhead. Photo: Jens Olsen, Museum Southeast Denmark.

2006, 140). It is therefore doubtful whether the soapstone sherd from House 5 should be linked to the two dates at the end of the Late Germanic Iron Age. It was noted in connection with the excavations of House 5 that the conditions here were difficult because there seemed to be remains of an old topsoil surface above the postholes, which is described as diffuse and difficult to delimit (Woller 1998, 28). It is thus possible that the soapstone fragment comes from a later layer that covers House 5.

Summary of minor finds and everyday items from Strøby Toftegård

A varied inventory of objects is presented above. The items include traces of crafts, processing of crops, cooking and personal items. In some cases, the items can be broadly dated to the Late Iron Age while others can be more specifically dated to either the Late Germanic Iron Age or the Viking Age.

The majority of object types are represented at both Farm 1 and the remaining farm units, but some types of items seem to be linked more specifically to Farm 1, for instance items that are associated with crafts, such as casting moulds. The picture becomes even clearer if we also look at the distribution of waste material from bronze casting, because there is a similar preponderance of such

items in the area with the great longhouses. This suggests that metalworking was carried out in the vicinity of the magnate, although the basis for this assessment is limited to just two casting moulds. Items linked to textile work, such as loom weights and spindle whorls, are also found with a greater density within the area pertaining to Farm 1 compared to the other farm units. Only two spindle whorls were found in soil-sieving trenches, which means that this type of object is not overrepresented at Farm 1 because of the excavation methods, so the picture that emerges of textile work being associated especially with the area with the great longhouses can be trusted. Traces of both metalworking and textile production are found at Strøby Toftegård, and both spinning linked to high-quality textiles and metalworking seem to be connected to the great longhouses. However, given the number of items within these two categories, neither type of work seems to have exceeded production for the inhabitants' own needs.

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The Arabic coins from Strøby Toftegård

Birgitta Hårdh

Abstract

The article treats 36 dirhams unearthed at Strøby Toftegård. Find conditions, chronology and the degree of fragmentation will be analysed. So-called traces of circulation are examined and the question of how the coins were used is discussed. The material from Strøby Toftegård is compared with coins from mainly Uppåkra in Scania, Kaupang in Norway and Tissø in Zealand, with a particular focus on dating and the extent of fragmentation. Material located at trading sites, central places and agricultural areas differs from that discovered as hoards and thus significantly complements the overall picture of the influx of Arabic coins to Viking Age Scandinavia and their circulation within that society. The coins from Strøby Toftegård provide an important supplement to the picture drawn by coins from other settlement sites.

Keywords: Arabic coins, chronology, possible hoard find, silver fragments, hacksilver

From the last decades of the 8th century on, Arabic dirhams begin to appear in Eastern Europe and Scandinavia. They are part of an international network where the coins constituted one element of the flow of silver that went via the Caucasus and Khazaria on through the Rus' areas in what is now Russia (Noonan 1984, 152; 1990, 252). In Eastern and Northern Europe, dirhams dominate Viking Age coin hoards from the 9th and 10th centuries. Practically all dirhams that have been found in the Baltic region, that is, Scandinavia, Finland, the Baltic states, Poland and northern Germany, have come from the Near East through European Russia (Rispling 2007, 101). In 1994, Thomas Noonan reckoned that, between AD 800 and 850, 4345 dirhams were deposited in Scandinavia and the Baltic region, while no less than 26217 were deposited during the latter half of the 9th century (Noonan 1994, 226; Rispling 2007, 108). The coin hoard from Staraya Ladoga is regarded as decisive in terms of our understanding of when the flow of Arabic coins began. It has been labelled the earliest Russian dirham hoard and consists of 28 complete coins and three fragments, minted between 749 and 786. Because of the

short timespan between the oldest and youngest of these coins, the hoard is thought to have arrived in north-western Russia as one collection shortly after the youngest coin was minted (Kirpičnikov 1989, 322; Rispling 2007, 103). The start of the flow of eastern coins is associated with the financial upturn in Baghdad and the Abbasid Caliphate, which led to an enormous demand for luxury goods, fur, slaves and so-called forest products. This network was subsequently broken as a consequence of unrest along the contact routes that went through the Russians steppes, and this shows as a decrease in the influx of dirhams from c. 875 until 900 (Noonan 1985; Callmer 2000, 38; Roslund 2015, 43). From c. 900, a new influx of coins can be detected, this time of Samanid origins, and this is linked to the Samanid expansion into Transoxania, which holds rich deposits of silver. This time round, Khazars and Volga Bulgars act as middlemen (Noonan 1984, 276–281; Kovalev 2011, 46; Roslund 2015, 43–45). In the composition of coins from the 10th century, Samanid specimens from the eastern parts of the Caliphate dominate. Samanid coins are strongly represented in Scandinavian coin hoards even into the 11th

century but decrease significantly from *c.* 950 (von Heijne 2004, 66–68).

Up until a few decades ago, Arabic coins in Scandinavia came predominantly from hoards, with a few additional finds of single coins. This has changed radically in recent times through the excavation of the cultural layers of agricultural areas, central places and trading sites and, not least, through examinations of plough soil and through metal-detector finds. Interestingly, this additional coin material often seems to have an older profile and is dominated by Umayyad and Abbasid coins that are linked mainly to the 9th century, while the hoards, as mentioned, are generally dominated by Samanid coins belonging predominantly to the first half and the middle of the 10th century (Kilger 2008, 204, figs 7.4–7.6; forthcoming; von Heijne 2011, 191–192).

In a few cases, the early dating of Arabic coins found in cultural layers is confirmed by stratigraphy (Gustin 2011, 241). Generally, the degree of fragmentation likewise appears to be greater in these contexts. This shows that the material stemming from cultural layers is a very important element in our understanding of how the silver was used in Scandinavia and the Baltic region during the Viking Age.

In the following, 36 dirhams from Strøby Toftegård will be described and analysed (see Catalogue pp. 248–249). The analysis will take into consideration the find conditions, the chronological profile, the degree of fragmentation and also so-called traces of circulation. The primary comparative material stems from Uppåkra in Scania, Kaupang in southern Norway and Tissø in Zealand, but other relevant sites will also be considered. The article adopts an entirely archaeological stance. The coins have been classified by Gert Rispling and all references to chronology and dynasties are based on his observations.

Find conditions

The Arabic coins are spread out across the entire excavated surface, but most were found within the very central part of the site, inside the so-called Farm 1 (Fig. 9.1). Twenty-four coins are described as stray finds. Nine coins were sieved of the centrally located section 0. These, as well as a few more coins, presumably come from a ploughed-up hoard: x3, x7, x13, x18, x29, x30, x31, x35, x81, x132, x135, x271 (according to documentation at Nationalmuseet, Copenhagen).

The spread of dirhams at Strøby Toftegård compares well to that of Tissø. There, too, dirhams – many of which were fragmented – were scattered over the entire site. This contrasts with, for example, Carolingian and Nordic coins, which are concentrated around the residential area. According to Lars Jørgensen, the distribution clearly shows that the two groups of coins had dissimilar uses, and that the Arabic coins were used mostly in connection with trade

and probably also workshop activities across the entire site (Jørgensen 2006, 197–207).

This contrasts with the rarer coins, which appear not to have been circulated but had more symbolic functions. The fact that these have often been perforated or equipped with an eyelet to be used as pendants speaks for this (Jørgensen 2006, 201). Regarding Strøby Toftegård, it may be significant that a complete coin, minted in Mercia in the early 9th century and which must be considered a rare specimen, was found in a posthole in one of the houses. One complete dirham has been pierced and given an eyelet, one has been perforated and a halved dirham features half a hole, probably so that it could be suspended.

Chronology

The chronological make-up of dirhams varies from place to place. A very useful compilation has been made by Mark Blackburn. He notes that the distribution of earlier and later coins varies in ways that mirror the specific history of each given site (Blackburn 2008, 50).

Of the 36 dirhams found at Strøby Toftegård, 34 have been dated. They were minted between 698 and 955, based on the earliest possible year for each coin. The oldest coin in the hoard is dated to within a very wide chronological spectrum, 698–750, and the second-oldest also falls within a broad spectrum, 703–750. Generally, the time of minting for the coins from Strøby Toftegård stretches from the first half of the 8th century until just after the middle of the 10th century. The majority of the coins are fragmented, five are complete.

According to Rispling, the coins that can be dated on the basis of dynasties are distributed thus: Umayyads 4, Abbasids 18, Idrisids 1 and Samanids 9 specimens. The fact that early dirhams, especially of Abbasid mintage, dominate is a trait that also shows up for collections of coins from settlements, trading sites and central places (Blackburn 2008; Hårdh 2010, 280–286).

Coins from settlements and hoards are typically dominated by Abbasid and Samanid specimens. The earliest Samanid dirhams were minted in the 890s. Around this time, very few newly minted Abbasid coins arrived into Eastern Europe. This means that dirhams minted during the Umayyad and Abbasid dynasties were produced considerably earlier than the 890s, while those produced after that decade consist mainly of Samanids and Volga Bulgar imitations (Blackburn 2008, 37; see also Gustin 2011, 236–240). The distribution of coins minted before and after 890, respectively, yield a general picture of what coin flows characterise the different sites. Table 9.1 shows the distribution at the two Zealand locations of Strøby Toftegård and Tissø. Mark Blackburn has compiled similar sorts of distributions for a range of central places in Scandinavia and England, especially the Danelaw (Table 9.2) (Blackburn 2008, 50).

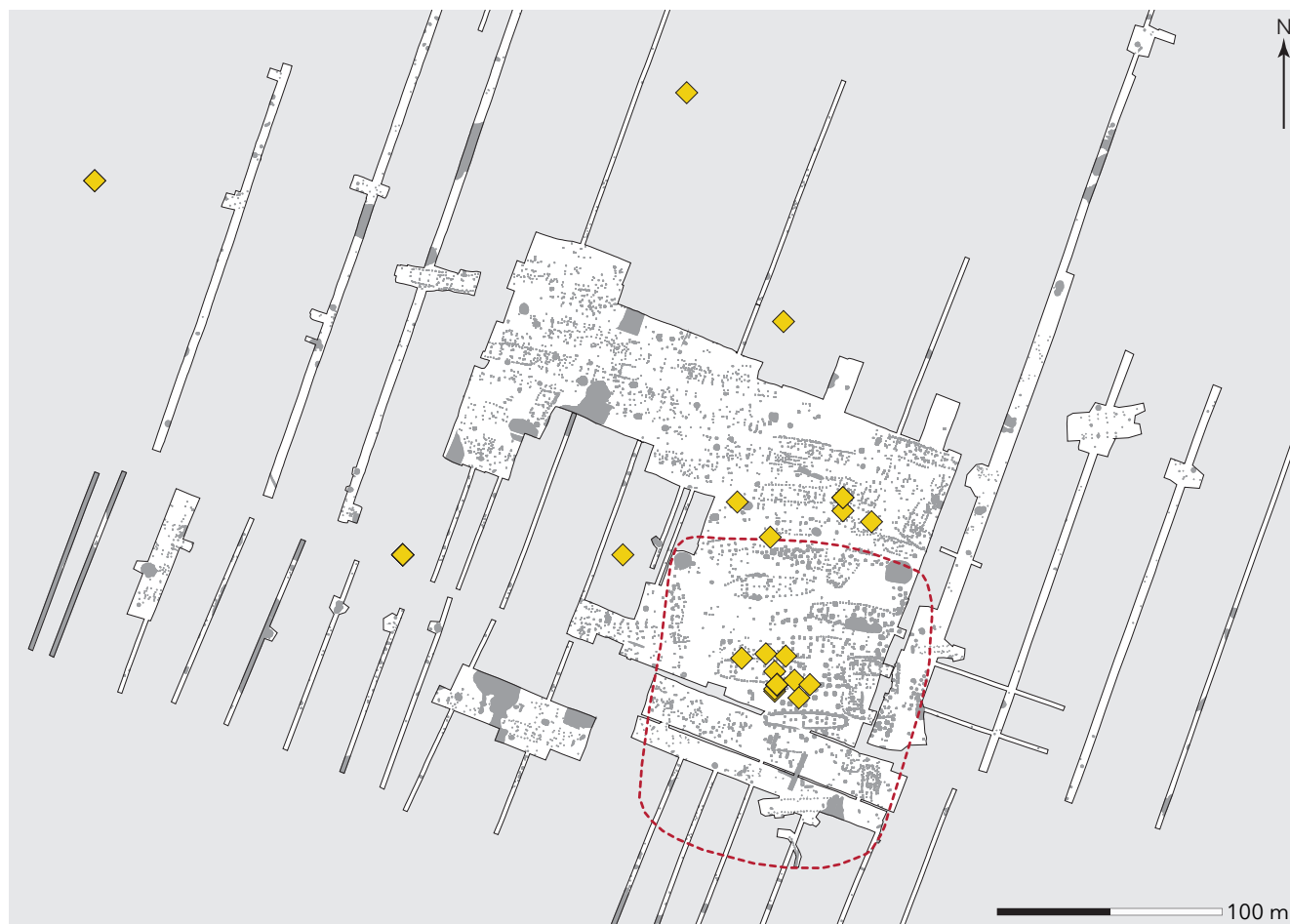


Fig. 9.1. The distribution of Arabic coins across the excavated surface. The extension of Farm 1 is indicated with a red dotted line. Illustration: Museum Southeast Denmark.

Table 9.1. The distribution of pre- and post-890 dirhams from Strøby Toftegård and Tissø, both sites being in Zealand.

	Pre-890	Post-890	No.
Strøby Toftegård	23 (68%)	11 (32%)	34
Tissø	50 (49%)	53 (51%)	103

The tables above show that the distribution of earlier and later coins varies and that this probably reflects the individual history, contact network and other aspects associated with each site. Kaupang and Uppåkra have quite early profiles and, according to Blackburn, Kaupang has an extremely early distribution (Blackburn 2008, 50). The chronological distribution of the 34 dated dirhams from Strøby Toftegård shows a make-up with a somewhat later profile compared to Kaupang and Uppåkra. The city wall at Birka shows a profile similar to the one from Strøby Toftegård, but with a somewhat later tendency, and the same goes for Birka's harbour, although the latter is based on only a small number of coins. The material from Tissø, also in

Table 9.2. The distribution of pre- and post-890 dirhams from selected sites in Scandinavia and the Danelaw, after Blackburn 2008, Tab. 3.12.

	Pre-890	Post-890
Kaupang	65 (88%)	9 (12%)
Uppåkra	171 (76%)	53 (24%)
Paviken	51 (47%)	58 (53%)
Birka hamnen	5 (28%)	13 (72%)
Birka city wall	17 (59%)	12 (41%)
Birka Black Earth	18 (30%)	43 (70%)
Torksey	68 (100%)	—

Zealand, deviates markedly from the sites introduced here by having a significantly later profile.

In order to be able to compare the chronological distribution of the dirhams from Strøby Toftegård in a more detailed way with other sites, I have applied a method used by Blackburn and, likewise, by Lutz Ilisch for the analysis

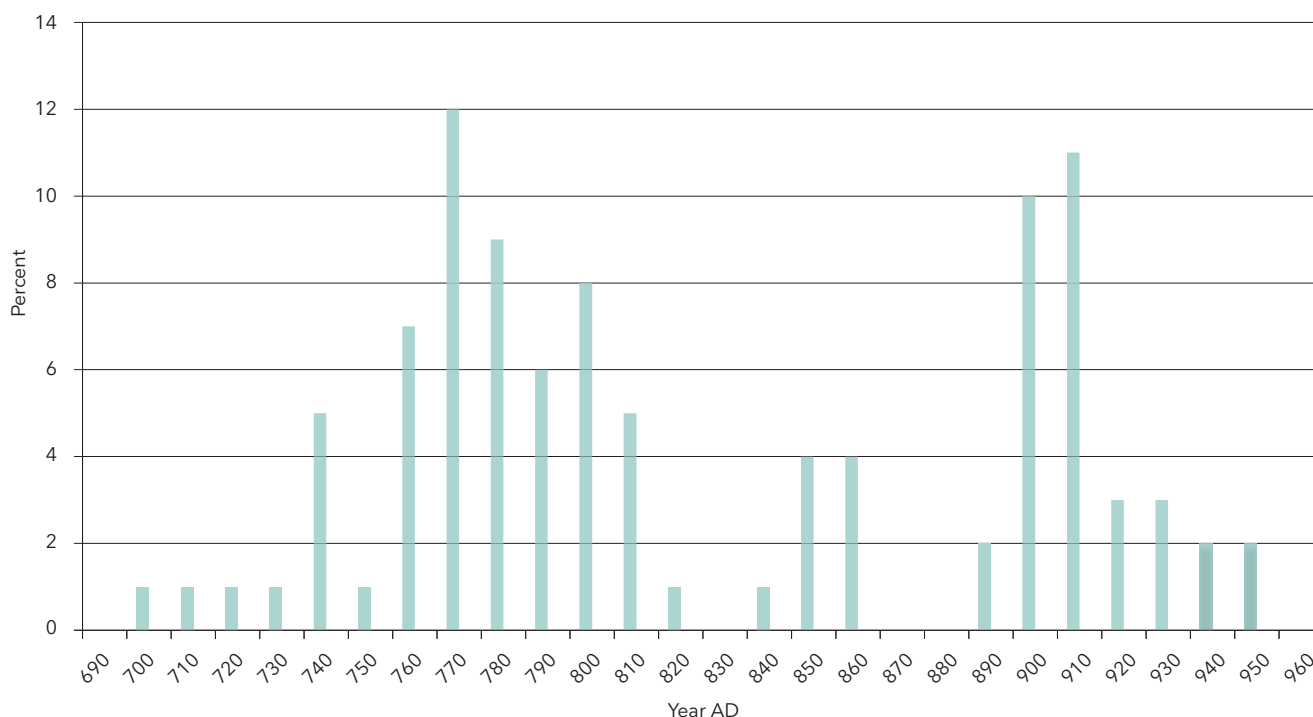


Fig. 9.2. The chronological distribution of the dirhams from Strøby Toftegård, with percentages spread across decades in accordance with Blackburn's method (see Catalogue pp. 248–249).

Table 9.3. Distribution of the 34 dirhams from Strøby Toftegård across half-century intervals. The compilation is schematic, three coins with extended mintage intervals have been included in the half centuries covering the greater part of their possible time of mintage (see Catalogue pp. 248–249).

Date	No.
Pre-700	0
700–750	3
750–800	13
800–850	5
850–900	3
900–950	10
950–	0

of hoards from the Near East (Blackburn 2008, 47 with citations.). Since the dirhams can usually only be dated to a timespan covering a few years, albeit sometimes a few decades, a method must be worked out that takes into account the proportions of coins for each decade. This means that the range of years during which a given coin may have been minted is proportionally spread out across the possible decades. The fractions thus calculated for every coin from a given decade are added up and yield a result that shows the number of finds per decade. For example, a coin dated to 750–764 has a mintage span of 15 years. Then 10/15

are allotted to the 750s and 5/15 to the 760s. Blackburn applies this method in order to compare the chronological distributions of dirhams from Birka, Uppåkra, Kaupang and other sites. The advantage of this method is that sites with relatively few coins can be included in these comparisons, whereas, if you were to consider only coins with exact dates, such sites would produce so little material that the results would hardly be relevant. According to Blackburn, the method admittedly has the effect of evening out the high and low points of diagrams, but it provides access to a greater statistical base than what would be possible if only exactly dated coins were considered. The benefits of applying this method here is that the material from Strøby Toftegård can be slotted into the wider analytical work done by Blackburn.

Table 9.3 shows that most of the coins were minted during the second half of the 8th and the first half of the 10th century. The diagram provides a more detailed picture with a scattered concentration between 760 and 810 and a more focused concentration between 900 and 910 (Fig. 9.2).

Blackburn also compiles an overview of stray finds of dirhams from southern Scandinavia, since these are thought to provide a more general picture of what coins were in circulation than hoard finds do (Fig. 9.3). For Zealand, Funen and the islands, he indicates an even distribution of dirhams minted before and after 890, with 51% before and 47% after (Blackburn 2008, 36–37). Compared with this distribution, Strøby Toftegård shows a somewhat earlier profile.

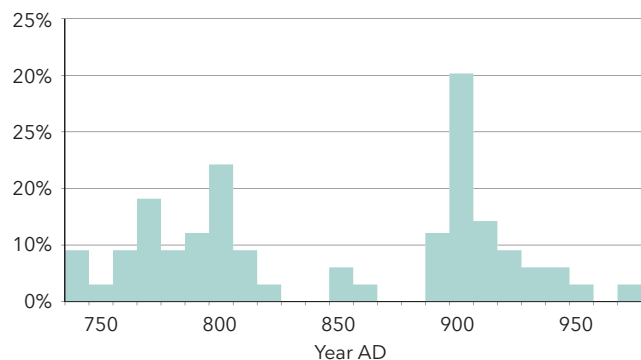


Fig. 9.3. Singular coin finds from southern Scandinavia (1-5 finds: 66 coins). After Blackburn 2008, Fig. 3.10, p. 49. Copyright: Kaupang Excavation Project, Museum of Cultural History, University of Oslo.

Blackburn's diagram indicates a concentration in the period from the second half of the 8th century until the first decade of the 9th century, and another, but also greater, concentration in the first decade of the 10th century. This corresponds largely to the distribution from Strøby Toftegård and may imply that, on the whole, the coins from Strøby Toftegård are representative of the coins that were in circulation within the region. The decrease in the latter part of the 9th century parallels what is observed at Birka (Gustin 2011, 241) and is linked to the general downturn in the influx of dirhams mentioned earlier.

The possible hoard find from the central area of the site, Farm 1, is presented by Cecilia von Heijne in her catalogue, which describes 13 coins with a *terminus post quem* of 850. The find has also been discussed by Christoph Kilger, who highlights that this find, together with the hoard from Sønder Kirkeby, Falster, is unique in southern Scandinavia. Both hoards consist of dirhams which are for the most part fragmented. Other 9th-century finds from southern Scandinavia containing dirhams have only a small proportion of fragmented coins, while most specimens are whole, have been perforated or equipped with eyelets and thus made into jewellery (Tornbjerg 1998, 217–232; von Heijne 2004, 298, find 4.133; Kilger forthcoming).

Weight and degree of fragmentation

Fragmentation and the degree of fragmentation is another important aspect to consider in connection with circulation, use and chronology. Rispling notes that the presence of hacked coins and the proportion of them is geographically and chronologically conditioned. Thus, fragmentation is, for instance, more common in mainland Sweden than in Gotland, and small fragments are more common in later finds compared to earlier ones. Oriental coins are commonly fragmented to a higher degree than Western European ones, which may be due to their greater weight and size (Rispling 2004a, 6; also Hårdh 1996).

Table 9.4. Distribution of the dirhams from Strøby Toftegård according to weight, number and percentage (see Catalogue pp. 248–249).

Weight (g)	No.	%	Weight (g)	No.	%
0.19	0	0	1.7–1.79	1	2.7
0.20–0.29	1	2.7	1.8–1.89	1	2.7
0.30–0.39	2	5.6	1.9–1.99	0	0
0.40–0.49	1	2.7	2.0–2.09	0	0
0.50–0.59	3	8.3	2.10–2.19	0	0
0.60–0.69	6	16.7	2.20–2.29	0	0
0.70–0.79	2	5.6	2.30–2.39	0	0
0.80–0.89	2	5.6	2.40–2.49	1	2.7
0.9–0.99	2	5.6	2.50–2.59	0	0
1.0–1.09	0	0	2.60–2.69	0	0
1.1–1.19	3	8.3	2.70–2.79	1	2.7
1.2–1.29	3	8.3	2.80–2.89	1	2.7
1.3–1.39	1	2.7	2.90–2.99	0	0
1.4–1.49	2	5.6	3.0–3.09	1	2.7
1.5–1.59	0	0	3.10–3.19	1	2.7
1.6–1.69	1	2.7	3.20–3.29	0	0
Total			36	100%	

As mentioned, the majority of the dirhams from Strøby Toftegård are fragmented. As a rule, the edges of the fractures are straight and sharp, and the coins seem to have been deliberately broken. Only in unusual cases are the fracture edges irregular, showing that the coin has snapped. Fragmentation is a characteristic trait of Viking Age silver and includes coins as well as jewellery and other objects, such as rods, ingots, etc. Fragmentation has been regarded as an indication that silver was used as a means of payment, and the fact that even very small fragments are found has been interpreted to the effect that silver was used also to pay for fairly cheap goods, that is, everyday goods. Fragmentation is most obvious in hoards from the 10th century, especially the latter part. There is also evidence, from stratigraphy and certain hoard finds, that hacksilver was used already from the 9th century. Fragmented silver is a phenomenon known across the entire Viking Age world, but especially from the West Slavic and South Scandinavian areas. Of course, fragmentation of silver may also have been done for other reasons, such as in connection with silver smithing. Especially this craft developed much in Scandinavia due to the great influx of Arabic coins (Hårdh 1976; 1996; 2008; Kilger forthcoming).

Table 9.4 shows the distribution of the Strøby Toftegård dirhams according to weight. Five dirhams are whole. They weigh: 2.44, 2.89, 2.79, 3.02 and 3.1 g, respectively. The remaining specimens are, as the table shows, heavily fragmented and often weigh less than 1 g.

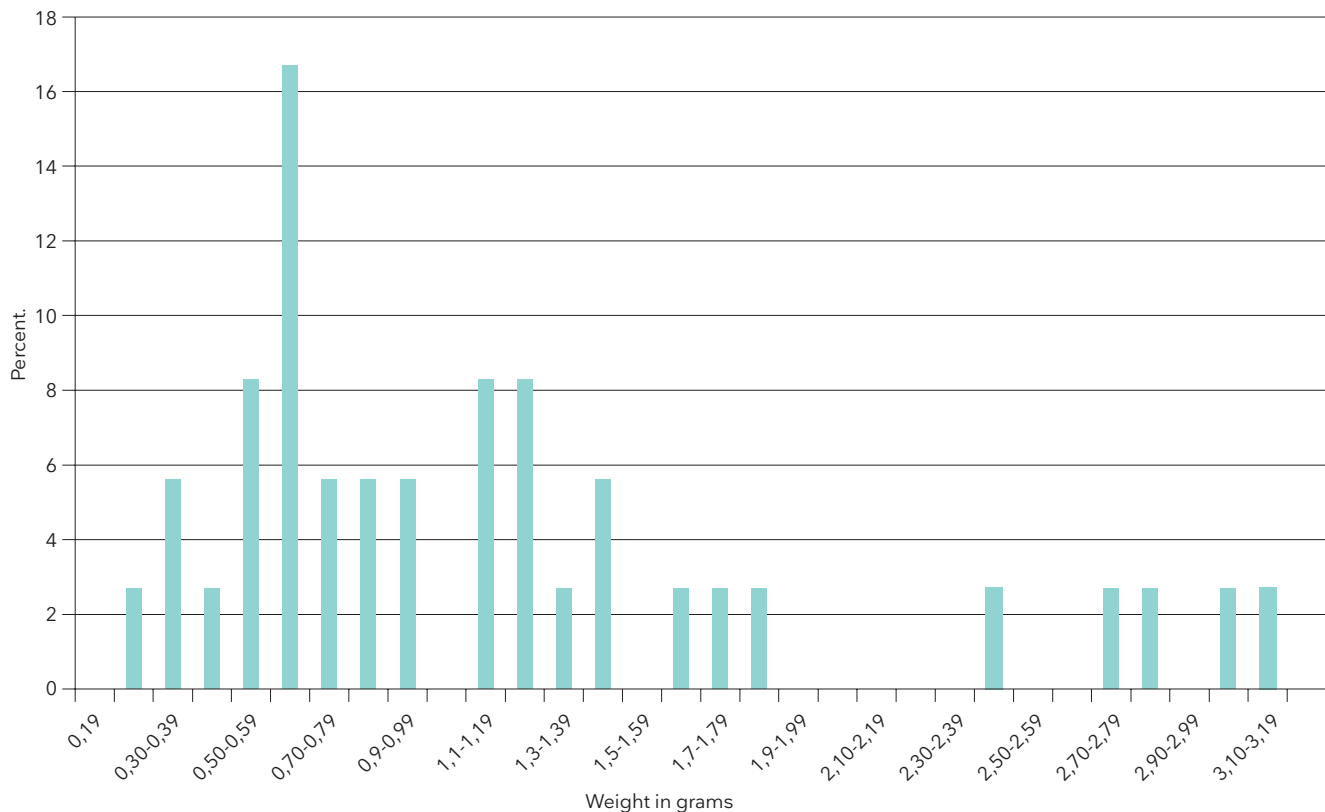


Fig. 9.4. Distribution of the dirhams from Strøby Toftegård according to weight, in percentages (see Catalogue pp. 248–249).

As is evident from the table and the diagram (Fig. 9.4), the majority of the coins are fragmented, often into very small pieces of which many weigh less than 1 g. The five whole dirhams are featured in the right-hand side of the diagram.

Traces of circulation

Gert Rispling has summed up the question of traces of circulation detectable from coinage. There are various such traces that provide insights into the circulation and use of coins. The traces may also provide some chronological clues. Incisions, probably inflicted to test the quality of the silver, have been divided into separate groups. A very common type is called pecks and occurs frequently on coins from the Baltic region and Russia from the 990s on (Rispling 2004a, 5). These are made by bending the coin so that an edged is formed. Then a knife has been used to make a small scratch. This type of testing mark is also common on hacksilver. Ulla Welin has defined another type of testing marks, which Rispling refers to as ‘nicks’, that is, cuts. This is defined as 2–5 mm or even as much as 11-mm-long cuts going from the outer rim of the coin towards the middle. Such marks have frequently been noted in Scandinavian finds deposited during the 9th century. They are associated predominantly with Arabic coins and, since no or very

few ‘nicks’ have been found on coins in the Middle East, there is reason to assume that testing by means of ‘nicks’ occurred in Russia or possibly the Caucasus (Welin 1956, 152; Rispling 2004a, 3, fig. 1, 3).

No so-called ‘pecks’ have been observed on the coins from Strøby Toftegård, which is entirely as expected. But ten coins feature ‘nicks’. They most commonly take the form of one or two straight cuts from the edge towards the middle of the coin. They measure from a few mm to about 0.5 cm. Such nicks are found on x2, x3, x7, x18, x35, x135, x218, x271, x534, x639. Two whole dirhams have more complex nicks, both featuring a round perforation near the edge. x411 has corroded so that the surface has partially flaked off. On one side it has two nicks going in from the edge and some cuts on the middle of the coin. x718 has several ‘nicks’ near the edge on both sides, as well as scratched lines on the middle of the coin (Fig. 9.5). Some of these may be recent.

Eight of these coins come from Farm 1, four from section 0 and two from inside or near the longhouse (House 2) immediately north of area 0. This may strengthen the interpretation that these dirhams stem from a ploughed-up treasure. The occurrence of ‘nicks’ can also provide a chronological indication. Testing silver by means of cuts seems to have begun around 800 and continued until the middle of the century. Subsequently this method subsides markedly (Rispling 2004a, 3).



Fig. 9.5. Example of a coin with 'nicks' (x7). Photo: Museum Southeast Denmark.

One coin (x2) has been clipped so that a bit more than half the coin remains (Fig. 9.6). Prior to the division, a line has been scratched for guidance, but breaking the coin has not been done quite in accordance with this so that the line remains on the halved coin.

Many coins, especially Arabic ones, feature various kinds of scratches, so-called graffiti. This may be rune-like signs, symbols or objects. None such can be observed on the coinage from Strøby Toftegård.

Spiral-striped and stamp-decorated rods

Among the material from Strøby Toftegård are seven thin rods, c. 4–4.5 mm, with a round cross section with spiral stripes or stamp ornamentation (Tornbjerg 1998, fig. 2). All except one have been clipped in both ends. One find (x5) has been clipped in one end while the other end has a finely made hook shaped as a swan's neck (see Bastrup, Chapter 7, Fig. 19). These fragments probably belong with the striped and/or stamp-decorated rings that are known especially from the Duesminde find from Lolland. These rings belong to the earliest part of the Viking Age, likely the 9th century (Skovmand 1942, 28–43; Munksgaard 1963; 1965; 1980; Holm Sørensen 1989). It is interesting that fragments of such rings have been found at a range of locations that qualify as either central places or trading sites. They commonly occur together with Arabic coins which, when found in such locations, have an early dating,



Fig. 9.6. Coin (x2) with a line scratched for division. Photo: Museum Southeast Denmark.

as already mentioned. This combination is known from, for example, Tissø, Jyllinge and Kirke Hyllinge in Zealand, Uppåkra in Scania and Kaupang in Norway. Seven such fragments were found at Uppåkra and ten at Kaupang (Ulriksen 1998, fig. 90; Hårdh 2008, 108–113, figs 5.10, 5.12; 2010, 286, fig. 22).

Kilger moreover mentions the English sites of Torksey and Croydon as examples of places where dirhams as well as fragments of spiral-twisted, striped rings have been found, and he sees these as examples of the fact that Western sites that feature dirhams were somehow interlinked (Kilger 2008, 234).

In this connection, it is of interest that these rings seem to have been produced according to specific standards of weight. The rings commonly weigh around 50 g. Form, ornamentation and dating suggest that they are linked to the so-called Permian rings, although they are probably produced in southern Scandinavia, likely in present-day Denmark. Fragments of rings can thus be seen as a type of currency which, especially in the Early Viking Age, existed alongside dirhams.

Conclusions – comparisons with other sites

It is only through the occurrence of large quantities of Islamic coins that we see how silver coinage seeps out into other segments of the agrarian society outwith the large emporia and become part of agrarian transactions and workshop production (Jørgensen 2006, 203). This concurs well with the situation in Kaupang where the dirhams, for reasons of stratigraphy, belong to a later period than the Carolingian coins do (Blackburn 2008). Due to their greater numbers, they probably also testify to a wider usage than the Carolingian coins do. Also, at Uppåkra it is clear that the few Carolingian coins that have been found are usually whole, in contrast to the severely fragmented Arabic coins. This strengthens the interpretation of dirhams as having

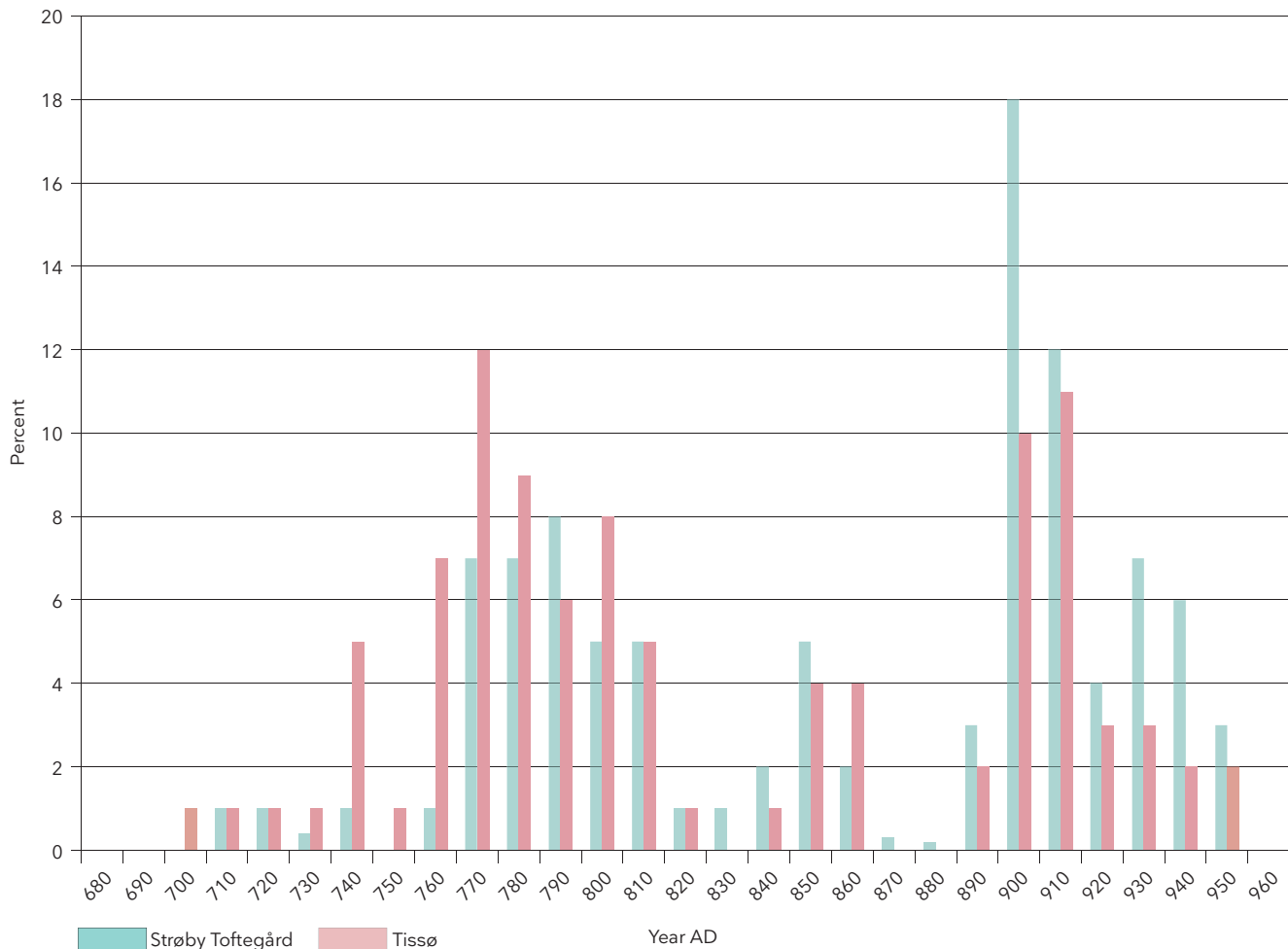


Fig. 9.7. Chronological distribution of the dirhams from Strøby Toftegård and Tissø.

been used primarily in connection with transactions of trade and as raw material, unlike *inter alia* the Carolingian coins, which are thought to have had a symbolic significance or have been used as jewellery. The combination of dirhams, Carolingian coins, Nordic coins and one early Anglo-Saxon specimen is also known from Lejre in Zealand (Moesgaard in Christensen 2015, 188).

The unknown material from plough soil and cultural layers often draws a different picture from the one obtained from deposited finds. The latter can be assumed to consist of items that reflect some sort of selection process. Deposited finds from the 9th and 10th centuries are fairly regular. Finds that were deposited in the 920s, that is, with coins from after 915, commonly contain at least 80% Samanid coins, and this percentage increases to 95% around 950 (Blackburn 2008, 41, Tab. 3.5; Kilger 2008, 236, tab. 7.12).

The stratigraphy at Birka reveals examples of earlier coins in later contexts. In the so-called warrior hall, 69% of the dirhams found had been minted prior to 890. The 10th century layers from the jetty contained 86% Umayyad and Abbasid coinage, that is, coins minted during the 8th and

9th centuries. From phase 7 at Black Earth, dated to the late 9th and early 10th century, 100% were minted before 890. These excavations all show that dirhams minted during the 8th and 9th centuries circulated frequently in the 10th century. Older dirhams in later contexts have been explained by the fact that old coins circulated for a long period of time in the eastern parts of the Caliphate and likewise in Eastern Europe. Many old dirhams were brought into the Baltic region from European Russia after c. 830-40 (Gustin 2011, 235-37 with citations). The same can be observed at Sigtuna, which was established around 980. Here, nine dirhams, Abbasids and Samanids, have been found. From the find context, it is clear that they circulated during an extended period of time and were old when they ended up in the ground. This goes especially for the two Abbasid coins, which must have been at least 83 and 133 years old when they were deposited (Roslund 2015, 43ff). Apparently, old coins, Abbasid and also some Umayyads, continued to be in circulation into the 10th century (Kilger 2008, 240). Deposits can be expected to contain a larger proportion of recent coins while older ones continued to circulate at trading sites and central places.

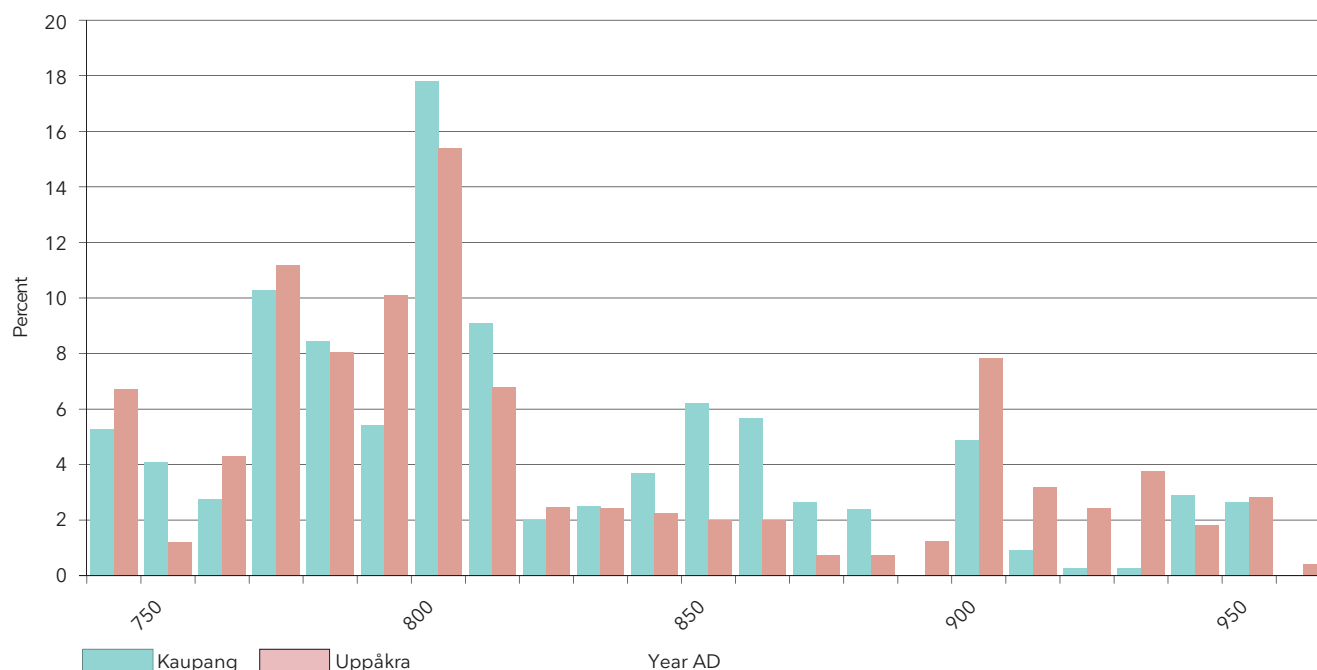


Fig. 9.8. Chronological distribution of dirhams from Uppåkra and Kaupang, after Blackburn 2008, Fig. 3.12, p. 51. Copyright: Kaupang Excavation Project, Museum of Cultural History, University of Oslo.

Figure 9.7 shows the chronological distribution of dirhams from the two sites of Tissø and Strøby Toftegård. Generally, the distributions from these two sites are similar, although Tissø has, as already noted, a stronger leaning towards the 10th century. Blackburn has compared the chronological spread of dirhams from Kaupang and Uppåkra.

Figure 9.8 clearly shows that the distributions featured at, respectively, Kaupang and Uppåkra differ from the sites in Zealand. In both places, early dirhams dominate heavily while the 10th century is much more sparingly represented, whereas the Zealand sites have a stronger representation of 10th-century coins. All diagrams likewise show that coinage from the early decades of the 9th century is sparingly represented. Rispling notes that, around the period AD 810–811, a decrease of coin production sets in in the Islamic world, and this decrease becomes even more marked during the period 820–831 (Rispling 2004b, 29). This decline shows clearly in all the diagrams and thus reveals a general tendency.

The differences in chronological profile are most obvious between Kaupang and Tissø. But also Strøby Toftegård has a significant proportion of late dirhams. Places such as Kaupang, Uppåkra and others were active also during the 10th century, so the variation cannot be caused by them having ceased to operate before other, similar sites. Kilger suggests that the sites were linked to separate trading networks. A place such as Tissø, which features a large proportion of Samanid coinage, may have had direct contacts to Gotland and thus an early influx of such coins (Kilger forthcoming).

The same contacts may also, to some extent, have influenced Strøby Toftegård.

The fragmentation of coins and other silver items is, as mentioned, a typical Viking Age trait. Many small fragments, not least of dirhams, are common in material from the plough soils and cultural layers of agrarian sites and central places. Regarding the dirhams, Rispling emphasises that coins from trading sites are generally severely fragmented (Rispling 2004b, 35).

Figure 9.9 clearly shows that the dirhams from Tissø, Strøby Toftegård and Uppåkra are greatly fragmented. A significant proportion of these fragments weigh less than 1 g. In connection with the study of the material from Kaupang, Blackburn holds that certain dirhams were likely fragmented already upon their arrival into Scandinavia. Breaking coins into fragments was an established practice in the Near Orient after the middle of the 9th century. Further fragmentation probably occurred in Eastern Europe and Scandinavia in order to meet the needs of trading transactions (Blackburn 2008, 64; also Ilisch 1990). For instance, the finds from Torksey in Lincolnshire and Truso in north-eastern Poland show that much-fragmented dirhams were in use already around the middle of the 9th century (Blackburn 2008, 65). The deposited find from Sønder Kirkeby, Falster, which according to Skovmand is the oldest coin-dated find from the Viking Age, shows the same practice (Skovmand 1942, 35; Kilger forthcoming). This renders these finds examples of silver that was circulating as currency, as opposed to hoarded valuables, which is what deposited finds usually contain.

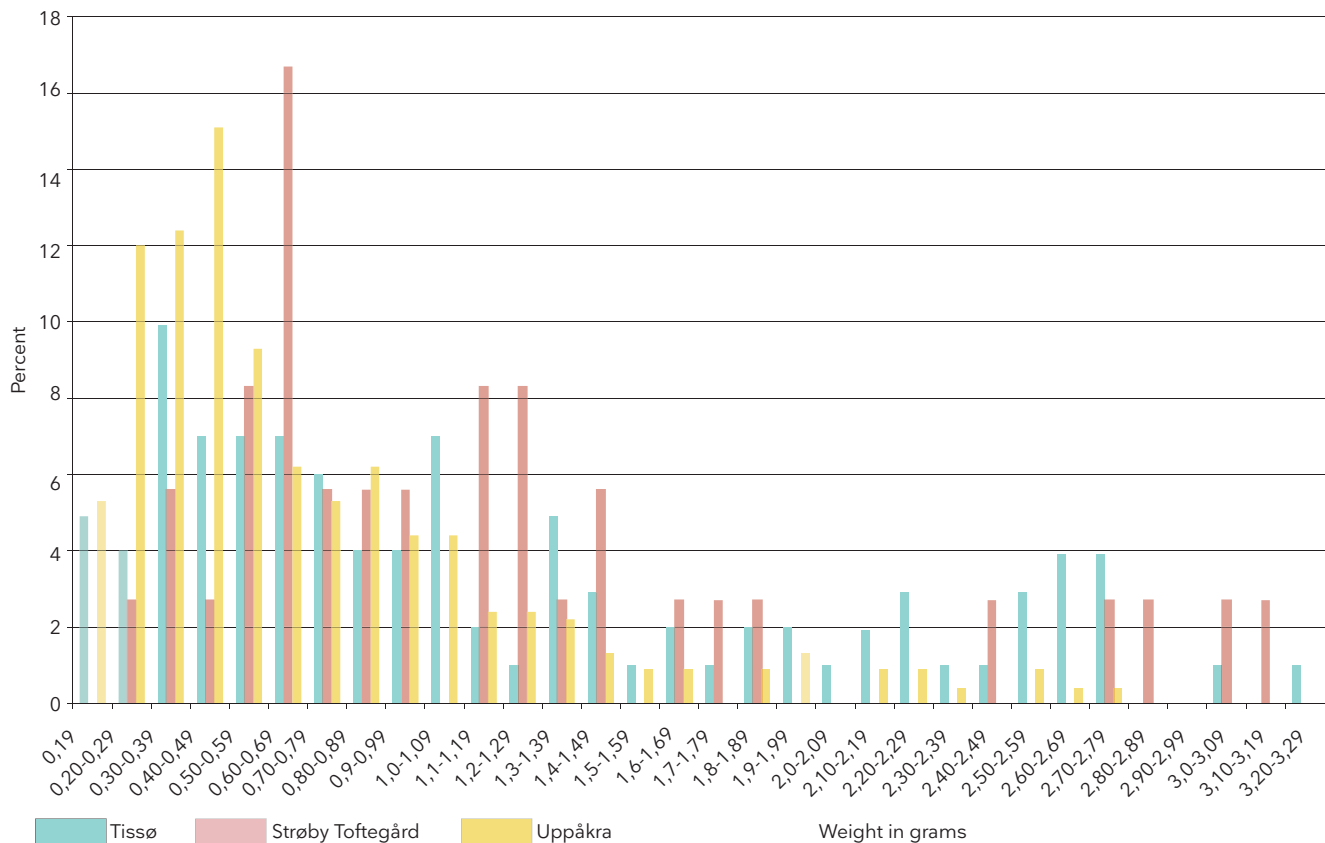


Fig. 9.9. Distribution of the dirhams from Strøby Toftegård, Tissø and Uppåkra according to weight, in percentages: Strøby Toftegård 36 coins, Tissø 103 coins and Uppåkra 225 coins.

Blackburn emphasises that the conditions of preservation for silver at Kaupang were poor and that the information about weight that he gives must be taken with some reservation. He gives the average weight of 90 fragments as 0.60 g (Blackburn 2008, 66). Regarding Strøby Toftegård, the corresponding figure is 0.96 g; that is, a heavier average. The fragments from Uppåkra weigh on average 0.7 g. The conditions of preservation for silver and other metals are significantly better in Scania and probably also in Zealand than at Kaupang, so comparisons between Strøby Toftegård and Uppåkra are presumably more relevant. The average weight of a fragment of a dirham from Tissø is 0.8 g. Figure 9.9, shows that dirhams from Uppåkra are to a great extent fragmented into very small and light pieces, while the material from Strøby Toftegård, like that from Tissø, shows a clear proportion of larger fragments.

The material from the plough soils and cultural layers of trading sites, central places and agrarian areas has thus brought about a new situation and provided new and better possibilities for understanding how silver was used during the Viking Age. Kilger emphasises that dirhams were in circulation as a means of payment in Scandinavia already in the 9th century, but that they were used exclusively at trading

sites that functioned as junctions for long-distance trading and also for the use of dirham silver (Kilger forthcoming). Apparently, the coins continued to circulate at these sites long after the time of their mintage, often in the form of rather small fragments. Small fragments of old coins were clearly a convenient means of payment while newer and whole coins were among items deposited as hoards. In coin economies, it is common that the coins with the smallest values are not deposited but are used regularly as payment and thus remain in circulation. What we see here is probably a similar type of situation.

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Catalogue of coins found at Strøby Toftegård.

No.	Find location	Rispling class	FP-no.	Classification	Date	Description	Weight (g)
KØM 01699x00002	soil-sieving trench, area 0	x	5720-2	Abbasid dynasty, 768/9 (AH 151), minted in Iraq	768–769	Fragment	1.76
KØM 01699x00003	soil-sieving trench, area 0	x	5720-3	Abbasid dynasty, 768–76 (AH 151–159), minted in north Africa	768–776	Fragment	0.5
KØM 01699x00007	soil-sieving trench, area 0	x	5718-4	Abbasid dynasty, 765–66 (AH 148), minted in Iran	765–766	Fragment	1.26
KØM 01699x00013	soil-sieving trench, area 0	x	5718-1	Umayyad dynasty, 738–79 (AH [12]1), minted in Iraq	738–779	Fragment	1.65
KØM 01699x00018	soil-sieving trench, area 0	x	5718-7	Idrisid dynasty (Idris I or II), after 789 (after AH 173), minted in Morocco	789+	Fragment	1.2
KØM 01699x00029	soil-sieving trench, area 0	x	5718-2	Umayyad dynasty, 748–49 (AH[1]31), minted in Iraq	748–749	Fragment	1.1
KØM 01699x00030	soil-sieving trench, area 0	x	5718-6	Abbasid dynasty, 800–805 (AH 184, 187 or 189), minted in Afghanistan?	800–805	Fragment	0.49
KØM 01699x00031	Stray find, near area 0	x	5718-3	Abbasid dynasty, 773–74 (AH 157), minted in Iraq	773–774	Dirham with eyelet	2.89 (with eyelet)
KØM 01699x00035	soil-sieving trench, area 0	x	5718-5	Abbasid dynasty, 791–92 (AH [17]5), minted in Morocco	791–792	Fragment	1.42
KØM 01699x00081	soil-sieving trench 3953	x	5719-2	Abbasid dynasty (al-Ma'mun), 796–806 (AH 180–90)	796–806	Fragment	0.28
KØM 01699x00132	soil-sieving trench 2254	x	5719-1	Umayyad daynasty, 698–750 (AH 79–132)	698–750	Fragment	0.37
KØM 01699x00135	soil-sieving trench 2354	x	5719-4	Abbasid dynasty (al Mutawakkil, Abu'abdallah), 850–854 (AH 236–39), minted in Iraq	850–854	Fragment	0.63
KØM 01699x00176	coord. 1905, 7/2170,25	x	5719-6	Abbasid dynasty, 861/2?, (AH 247), minted in Iraq	861–862?	Fragment	0.86
KØM 01699x00218	coord. 1916, 2/2018,26	x	5719-5	Abbasid dynasty, 776–97 (AH 160–180)	776–797	Fragment	1.21
KØM 01699x00219	coord. 1964, 85/2013,05	x	5720-5	Samanid dynasty (al Muqtadir and Nasr b. Ahmed) 920/21 (AH 308)?, minted in Central Asia	920–921	Fragment	1.82
KØM 01699x00223	coord. 1823, 3/2251,2	x	5719-7	Samanid dynasty (al Muqtadir and Ahmed b. Isma'il), 907–914 (AH 295–301)	907–914	Dirham	1.14
KØM 01699x00238	soil-sieving trench 1949			Søsling, minted in Ribe	1525	Coin, Middle Ages	1.84
KØM 01699x00254	Stray find, Pilehavegård	x	5720-1	Umayyad dynasty, 703–750 (AH 84–132), minted in Iraq	703–750	Fragment	0.68
KØM 01699x00271	soil-sieving trench 3051	x	5719-3	Abbasid dynasty, 771/2 or 805–8011 (AH 155 or 190–95)	771–772 ell 805–811	Fragment	0.61
KØM 01699x00275	Stray find, Pilehavegård	x	5720-4	Samanid dynasty (al Muqtadir, Ahmed b. Ismail), 912/13 (AH 300)?, minted in central Asia	912–913	Fragment	0.54

(Continued)

Catalogue of coins found at Strøby Toftegård. (Continued)

No.	Find location	Rispling class	FP-no.	Classification	Date	Description	Weight (g)
KØM 01699x00380	Stray find			Arabic, unclassified, with eyelet	unknown	Fragment, with hole for eyelet	1.47
KØM 01699x00411	A10395, House 2	x		Abbasid dynasty (Arminiya), 770 (AH 153)	770	Dirham with hole for eyelet	2.44
KØM 01699x00440	Stray find			Unclassified, poss. lost, from a drawn sketch: poss. German coin, Magdeburg/Goslar/Mainz/Speyer/Worms – late 900s–early 1000s	unknown	Half silver coin	Unknown
KØM 01699x00491	Stray find, by Østerhøjvej	x	10267.9	Samanid, caliph? [Isma'il b. Ahmed], Samarqand, AH [280–294]	893–907	Fragment	0.51
KØM 01699x00492	Stray find, by Østerhøjvej	x	10267.10	Samanid, caliph? [Ahmed b. Isma'il], mint?, AH 2 [94–99]	906–912	Fragment	0.61
KØM 01699x00503	Stray find, by Østerhøjvej	x	10267.15	Islamic imitation, c. 900	c. 900	Fragment	1.31
KØM 01699x00505	Stray find, by Østerhøjvej	x	10267.14	Samanid, [al-Mustakfi] billah, [Nuh b. Nasr], mint? (Samarqand?), AH [333–343]	944–955	Fragment	0.69
KØM 01699x00510	Stray find, by Østerhøjvej	x	10267.16	Dirham, unclassified	unknown	Fragment	0.91
KØM 01699x00518	Stray find	x	10267.3	Abbasid, caliph? Place of mintage? AH [c. 160–170]	c. 776–787	Fragment	0.79
KØM 01699x00519	Stray find			Unclassified, very worn, civil war coin?	1241–1375?	Whole coin	0.72
KØM 01699x00533	Stray find, by Østerhøjvej			Unclassified, civil war coin?	1241–1375?	Half coin	0.47
KØM 01699x00534	Stray find, by Østerhøjvej	x	10267.5	Abbasid, [al-Ma'mun], Madinet Isbahan?, AH [c. 198–200]	c. 813–816	Fragment	0.36
KØM 01699x00536	Stray find, by Østerhøjvej	x	10267.8	Abbasid, al-Mu'tadid [sic!], place of mintage? AH c. 29[0–1] (sic!)	c. 902–904	Fragment	0.95
KØM 01699x00578	Stray find, by Østerhøjvej	x	10267.6	Abbasid, [al-Ma'mun], place of mintage? AH [c. 200–205]	c. 815–821	Fragment	0.73
KØM 01699x00590	Stray find, Pilehavegård	x	10267.13	Samanid, [al-Qahir], [Nasr b. Ahmed, [Nay]sabar, AH [3]22	933/934	Fragment	1.1
KØM 01699x00631	coord. 1928,5/2087,0	x	10267.2	Abbasid, al-Mahdi, place of mintage? AH [159–169]	775–786	Fragment	0.65
KØM 01699x00639	coord. 1928/2085,7	x	10267.7	Abbasid, caliph? Place of mintage? AH [230–255]	844–870	Fragment	0.87
KØM 01699x00645	coord. 1968,90/2099,10	x	10267.11	Samanid, Samarqand AH 299	911/912	Whole coin	2.79
KØM 01699x00694	Stray find	x	10267.12	Samanid, al-Shash, AH 300	912/913	Whole coin	3.02
KØM 01699x00718	A11222, house 45	x	10267.4	Abbasid, al-Rashid, al-Qusi, Madinat Zaranj, AH 190	805/806	Whole coin	3.1
KØM 01699x00719	A11222, house 45		10267.1	Mercia, Coenwulf, group III, Cross-and-Crosslet, Ealhstan, prob. Rochester	c. 810–821	Whole coin	1.22
KØM 01699X01003	Stray find			Civil war coin	1241–1375?	Whole coin	0.84

Glass beads and semiprecious stones from Strøby Toftegård

Torben Sode

Abstract

Together with the raw garnets, the bead material constitutes a characteristic and colourful part of the archaeological material from Strøby Toftegård. In total, 43 glass beads were found, 33 of which are monochrome, seven polychrome and three are segmented beads with silver foil (Catalogue, Table 1). Additionally, four beads cut from rock crystal were found (Catalogue, Table 2), three beads made of carnelian (Catalogue, Table 3), one short, cylindrical bead made from fossil coral (Catalogue, Table 4) as well as six raw garnets (Catalogue, Table 5).

In contrast to the quantities of glass beads that are often found in Iron Age graves, beads are mostly found in smaller numbers at settlement sites and magnate farms, just like beads from such sites are often located in non-dateable features. A range of scientific analyses have been carried out on selected glass beads, glass sherds and glass slags from Strøby Toftegård to examine the glass composition and thereby identify the different types of glass used in the bead production. The results of these analyses are presented in the chapter on glass analyses (see Gratuze, Chapter 13). The beads have also been examined in terms of manufacturing techniques, and their characteristics, composition and shape are described.

Keywords: Glass beads from the Late Iron Age and Viking Age, rock-crystal beads, carnelian and fossil coral, bead production, long-distance trade, garnets

At Strøby Toftegård, the majority of the beads and semiprecious stones were found during sieving soil from cultural layers and plough layers. Additionally, a glass bead was found in the upper layer of a well, which was dated to the Early Viking Age. One glass bead and one carnelian bead were found in a pit house dated to the Viking Age, just like several glass beads were found in waste pits and postholes. Furthermore, another bead is recorded as a stray find. Apart from a few more recent glass beads, the bead material can be dated to the Late Iron Age and Viking Age, c. AD 400–900. A remarkably large proportion of the bead material was found in and around House 2 (Figs 10.1–10.2). In total, this area yielded 31 glass beads, three rock-crystal beads and the short, cylindrical bead made from fossil coral (69% of the total bead material). In the same area 84 sherds of vessel glass were found (60% of the total vessel glass material) along with three pieces of raw garnet. Additional

finds include a fragment of bluish-green, square glass rod (x188), a cobalt blue, square, drawn glass thread (x193), a fragment of a blue glass tube (x259), two pieces of burnt, light-green glass (x435; x650), a piece of burnt clay with melted green glass onto it (x1059) and five pieces of glass slag (x183; x189; x245; x683; x851), types of waste that is often found in association with glass-bead production. This combined with the significant presence of beads and glass fragments indicates that this might be a workshop area, possibly for local bead production, although no certain evidence for this has been located.

Previous research on glass beads from the Iron Age and Viking Age

There is no bead typology or overview addressing the Germanic Iron Age of Scandinavia, whereas beads from

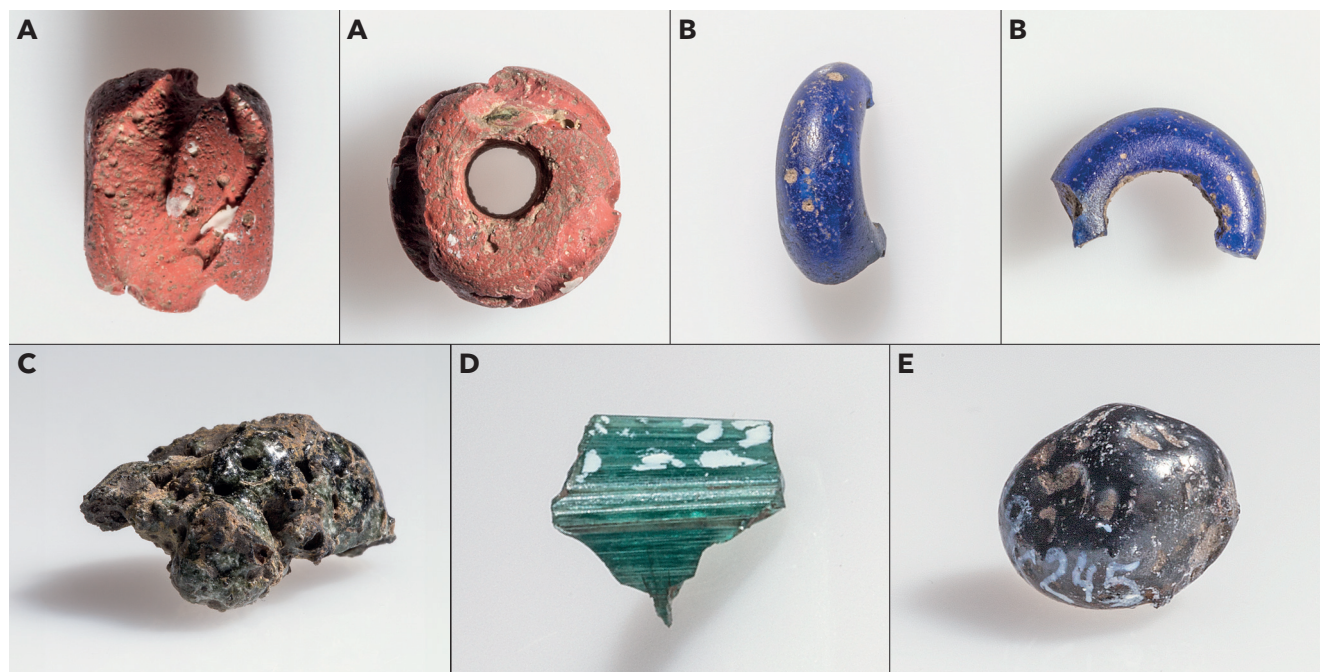


Fig. 10.1. Selected beads, glass slag and a square glass rod from inside and around House 2. Photo: Jens Olsen, Museum Southeast Denmark.



Fig. 10.2. Map of Houses 2 and 4, with locations of beads made of glass, rock crystal and limestone, as well as sherds of glass, raw garnets and slags. Drawing: Museum Southeast Denmark.



Fig. 10.3. Selected, monochrome, wound glass bead from Strøby Toftegård. Photo: Jens Olsen, Museum Southeast Denmark.

the preceding period are better understood. In 1985, the Polish archaeologist Tempelmann-Maczyńska wrote a work focusing mainly on beads from the Late Iron Age and the Early Migration Period found in Eastern Europe (Tempelmann-Maczyńska 1985). A large proportion of the types of beads described in that book are also known from Danish finds. In her typology of glass beads from the Roman Iron Age, Inge Elisabeth Olldag describes and classifies the most commonly occurring bead types, predominantly found in the eastern Danish area (Olldag 1994). This work includes several types of beads that also occur in the Germanic Iron Age and Viking Age. The bead material from the Late Iron Age is usually treated in connection with descriptions of items from grave finds. Per Ethelberg treats 13 graves with altogether 976 beads from Hjemsted 2, a gravesite from the Late Roman period located in south-western Jutland (Ethelberg 1990), and, in his monograph on the gravesite of Skovgårde in southern Zealand, he describes 1328 glass beads from the Late Roman Iron Age (Ethelberg 2000). Ulla Lund Hansen has studied the bead material from a range of graves from the Late Roman period, found in eastern Zealand (Lund Hansen 2009). At Slusegård in Bornholm, 1632 beads were found in graves from the Roman and Early Germanic Iron Age; these are treated in detail by Lind (2010). Also on Bornholm, about 1100 beads from the Germanic Iron Age were found at Nørre Sandegård Vest, and these are chronologically described, including informative colour plates, by Jørgensen & Jørgensen (1997, 45–47 and figs 27–36). Sets of beaded jewellery from Bornholm during the Germanic period are treated by Høilund Nielsen in an article, which unfortunately lacks good illustrations and colour pictures of the beads (Høilund Nielsen 1987). Becker describes beads from the Germanic Iron Age in connection with an article on the bead and jewellery find from Ørby (Becker 1955). Mogens Ørsnes describes the opaque, orange and red glass beads from the Germanic Iron Age (Ørsnes 1966). These opaque red and orange glass beads have most recently been analysed and described by

Sode, Gratuze and Lankton (2017). On the basis of the grave material from Lunda on the island of Lovö in Sweden, Bo Petré has established a bead chronology for the period c. 400–800 (Petré 1984). The bead material from the trade centre of Ribe has been treated in various contexts (Näsman 1979; Sode 2004; Feveile 2006; Frandsen 2006; Andersen & Sode 2012; Risom 2013), but, unfortunately, a comprehensive description of this material is still wanting. Viking Age beads, from the period c. 800–100, are treated in Johan Callmer's doctoral thesis (Callmer 1977), and he has moreover written about beads from the Late Iron Age and Viking Age in several subsequent articles (Callmer 1990; 1995; 1997; Callmer & Henderson 1991). The extensive glass-bead material from Hedeby in Schleswig has been studied by Peter Steppuhn (Steppuhn 1998), and the glass beads from the north German trading site of Gross Strömkendorf has been published by Alexander Pöche (2005). Most recently, Matthew Delvaux has described beads from the Late Iron Age and Viking Age in Scandinavia by comparing the work done by, respectively, Callmer (1977), Nielsen (1987) and Jørgensen & Jørgensen (1997) (Delvaux, 2017).

Monochrome, wound glass beads

The majority of the monochrome beads are so-called wound glass beads. Monochrome, wound glass beads constitute by far the largest proportion of the glass beads known from European prehistory, amounting to 76% of the glass beads from Strøby-Toftegård. Wound beads are made by winding hot glass around the conical point of a so-called bead mandrel. The glass is shaped with the mandrel as axis, and the hole in the bead is formed when the bead is taken off the mandrel. The winding structure of the bead can often be detected because the glass looks as if it has been wound around the hole in the bead. When the bead is finished, the mandrel is struck hard a few times against a solid structure, so that the glass loosens and the finished bead can be taken off the mandrel (Sode 1995; 2004, 89–90). The hot and malleable glass can be worked in various ways and, depending on the method used, the beadmaker can produce round, ring-shaped, barrel-shaped, cylindrical, melon-shaped, polyhedral, segmented and other shapes of beads (Fig. 10.3).

Ring beads

Ring beads made from either transparent, translucent or opaque glass are the type of bead that has been found in the greatest numbers (Fig. 10.4). A characteristic of ring beads is that their width makes up between one third and half of the diameter of the bead, and they often have a relatively large hole. The monochrome ring beads are not included as a separate group in Olldag's classification of



Fig. 10.4. Selected monochrome ring bead. Photo: Jens Olsen, Museum Southeast Denmark.



Fig. 10.5. Selected cobalt blue ring bead. Photo: Jens Olsen, Museum Southeast Denmark.



Fig. 10.6. Selected white bead. Photo: Jens Olsen, Museum Southeast Denmark.

Roman Iron Age beads, but they appear in her Main Group 1, under monochrome beads characterised by their colour. Tempelmann-Mączyńska places them in Group II, and Callmer has them as part of Bead Group A. Johan Callmer's studies show that these beads are widespread during the Early Viking Age (Callmer 1977).

Nine monochrome ring beads and three ring beads decorated with added, coloured glass thread have been found in waste pits and by soil sieving. Of these, a dark, bluish-green ring bead (x470) and half a light, blue bead (x927) have been analysed, both of which are made from translucent, Roman natron glass, as has an opaque, yellowish-green ring bead (x928), also made from Roman natron glass. These beads are likely from the Late Germanic Iron Age. The same goes for a greenish-brown transparent (x187) and a yellowish-brown transparent ring bead (x59).

Cobalt blue glass beads

Four ring beads made of dark-blue glass have been found, two of which are intact (x252; x329) while the other two are broken (x357; x367) (Fig. 10.5). Analyses of one of the beads (x252) show that it is made of Roman natron glass to which the mineral cobalt has been added. Ring-shaped, transparent, cobalt blue glass beads occur throughout the Iron and Viking Ages. According

to Tempelmann-Mączyńska's studies, transparent, dark-blue ring beads occur mainly early on during the Iron Age (Tempelmann-Mączyńska 1985, 29 ff.). Cobalt blue glass beads appear as part of the Scandinavian material all through the Iron Age, and they occur in large numbers in Ribe during the first half of the 8th century (Andersen & Sode 2012, 27–28; Sode 2004, 90). During soil sieving, a small, biconical, transparent blue bead (x315) was found, which may date from the Late Roman Iron Age. This is a cautious interpretation based on the fact that monochrome, dark blue, biconical glass beads were often somewhat smaller during the Roman Iron Age compared to later periods. Additionally, half a cylindrical, blue glass bead (x50) was found in a waste pit dated to the Viking Age. Analyses of these two beads reveal that they are made from transparent, Roman natron glass which has been coloured with cobalt. It cannot be discerned where the Roman glass-makers obtained the cobalt for the production of dark blue glass from. The metal cobalt does not naturally occur as a free element but is found in compound form in silver, copper and iron. It is possible that cobalt blue glass was produced by adding slag waste from the extraction of these metals. The mineral cobalt gives a strong, blue colour to the glass, and you only need 0.01% cobalt oxide in order to attain a blue tint (Henderson 2000).

White, opaque glass beads

Three wound, white, opaque glass beads containing many impurities and air bubbles in the glass comprise a small, apparently uniform group on the basis of the structure and colour of the glass (Fig. 10.6). A fragment of a tubular bead (x335) was found in a posthole belonging to House 3. A biconical bead (x52) was found in a waste pit dated to the Viking Age, and a barrel-shaped bead (x146) was discovered in a soil-sieving trench. Similar monochrome, opaque, white beads occur in relatively large numbers in the bead material from Ribe where the marketplace revealed such beads throughout the 8th century. These beads are included in Olldag's Main Group 1 under monochrome beads, and



Fig. 10.7. Selected red bead. Photo: Jens Olsen, Museum Southeast Denmark.



Fig. 10.8. Selected bluish-green bead. Photo: Jens Olsen, Museum Southeast Denmark.



Fig. 10.9. Selected bead of Near-Eastern natron glass. Photo: Jens Olsen, Museum Southeast Denmark.

in Callmer's classification, they belong to Bead Group A. Analyses of the tube-shaped and the barrel-shaped bead show that the glass is made from Roman natron glass with a relatively high antimony content (see Gratuze, Chapter 13).

Early Roman, white glass was produced by adding antimony to the glass. The white, opaque effect is caused by the glass being saturated with microscopic crystals of potash antimony so that the glass optically appeared as opaque and white. Since sometime in the 2nd century AD, the use of tin oxide instead of antimony as an opacifier began in the Syrian-Palestinian area and, after that, tin-white glass occurs also in Western Europe. Through analyses of glass and beads, it can be deduced that the white, opaque glasses produced using tin oxide or antimony are used alongside one another during the Late Iron Age. At the same time, white glass beads made using a mixture of antimony and tin are found, which shows that glass has been melted down and recycled. There are many indications that the melting down of white tesserae as part of the production of white beads has been widespread across Germanic Europe.

Red, oval natron-glass bead

An oblong, oval bead made of opaque, reddish-brown natron glass (x423), found in a waste pit, probably dates from the Late Roman Iron (Fig. 10.7). The red colouring has been obtained by adding copper oxide, possibly in the form of

slags and scales, which may originate as a waste product from metal working.

Beads of recycled, Roman natron glass

The monochrome glass beads described above are all made from Roman natron glass. Recent research shows that a large proportion of the glass beads that were produced during the Roman and Germanic Iron Age is made from recycled Roman natron glass. In certain cases, natron glass has been melted down together with other types of glass, for instance Near-Eastern plant-ash glass. This sort of glass recycling was very widespread, and the further away from the origin of the glass, the greater the likelihood of melting different types of glass together. On the basis of chemical analysis, it is possible to disclose a mixture of characteristics from various different types of glass.

Soil sieving has yielded two wound, dark, bluish-green beads, one of which is short, biconical and made of transparent glass (x73), the other is translucent, almost barrel-shaped and has rounded sides (x244) (Fig. 10.8). Analyses of the beads show that they are made from various types of melted-down Roman natron glass. The glass contains a variety of metal oxides in very small amounts, and this type of glass, containing many different trace elements in low amounts indicates, the practice of melting down and recycling glass.

Beads of Near-Eastern natron glass

Two wound, monochrome glass beads were found, which are made from a uniform type of glass containing natron in mineral form originating from the Eastern Mediterranean area, but which differ from the usual Roman natron glass (Fig. 10.9). In a sieved layer of soil a melon-shaped bead made of transparent, petroleum blue glass, which has been coloured with copper and which has a low manganese content, was found (x251). The shape of the bead has been obtained by using a sharp tool to make five incisions in the hot glass, all of them parallel to the hole. These so-called melon beads occur commonly throughout most of the Iron



Fig. 10.10. Barrel-shaped, wound bead of opaque, orange glass (length 7.0 mm, diameter 10.5 mm). On the side of the bead, the joint is visible as a dark line in the glass, and there are colour differences where the glass has melted together. After cooling, the bead has been polished and appears matte with even, polished sides. Exactly because the beads have been polished, it can be difficult to discern the joint. Polishing moreover means that the beads appear with many, open, circular air bubbles. Photo: Jens Olsen, Museum Southeast Denmark.

Age. They are included in Olldag's Main Group 1 under monochrome beads, and Tempelmann-Maczyńska places them in Group XVIII. Callmer groups them together with other monochrome glass beads in Bead Group A.

The other bead made of this Near-Eastern natron glass was found in a pit house from the Late Iron Age or Early Viking Age. This is a transparent, bluish-green, double-segmented bead (x698), whose green colour is due to a high content of iron. The bead must have been shaped using a sharp tool to make an incision in the middle of it, perpendicular to the hole, so that the bead has attained two segments. The green, segmented bead is included in Olldag's Main Group 1, and Tempelmann-Maczyńska puts it into her Group X, as Type 92a.

These two beads may have been produced in the Eastern Mediterranean area. If this is the case, it suggests that even simple, monochrome beads from the Eastern Mediterranean were, in the Germanic Iron Age, traded in Denmark, although there was a local production of practically corresponding glass beads in southern Scandinavia. In this connection, it should be mentioned that, among the analysed glass sherds, there was a bluish-green sherd with added white threads (x372), which was also of this type of Near-Eastern natron glass. It thus cannot be excluded that the beads were produced locally in Scandinavian from recycled glass.

Opaque, orange and red glass beads from the Germanic Iron Age

Opaque, matte orange and red beads occur in Scandinavia in large numbers in the 7th century. Especially the orange beads often appear to consist of very irregular and impure

glass. The structure in the glass shows that these are so-called folded, wound glass beads that have been made by folding and melting together a heated piece of glass around a mandrel. On the sides of the beads, it is often possible to discern this as a dark line in the glass, just like some beads have colour differences along the joint. A large proportion of such beads have subsequently been polished in order to attain the matte look, just like they have plain, polished sides. Exactly because the beads have been polished, it can be difficult to perceive the joints, which are characteristic of folded glass beads, and it also means that the beads have many open, circular air bubbles.

The beads are often barrel-shaped, but they also occur in various round, cylindrical, conical or polyhedral shapes. At Strøby Toftegård, two barrel-shaped, opaque, orange beads were found, one of which was in a waste pit (x134) while the other was a stray find (x454) (Fig. 10.10). Moreover, two barrel-shaped, opaque, red beads were found, one of which was found in connection with the sieving of feature A12157 (x196) and the other was found in a posthole from House 5 (x366). In Scandinavian, archaeological literature, the beads are often referred to as 'glass-paste beads' (*glasflusperler*). The orange and red beads of the Germanic Iron Age belong to Callmer's Bead Group Aj.

Analyses of the opaque beads from the Germanic Iron Age show that they have been made from a mix of soda-rich potash glass with a high alumina content. This type of glass is not known from European or Middle-Eastern glass workshops. The type of glass that is most similar to these orange and red beads is used during the production of so-called Indo-Pacific glass beads, which are found in great numbers in India, Thailand, Indonesia and other places in South-East Asia (Francis 2002).

The colour in the red beads is caused by the precipitation of metallic copper in the glass, while the colour in the orange beads comes from a mixture of copper oxides in the form of cuprite. The small cuprite crystals are yellow and the large crystals are red, and so the glass appears orange. Both metallic copper and cuprite block the transmission of light, and so the glass will appear to be opaque. Chemical analyses of 7th-century beads from Gotland, Bornholm and Ribe show that opaque, orange and red beads are often produced from high-alumina glass, but similar opaque, orange and red beads were also made from Roman natron glass (Sode, Gratuze & Lankton 2017).

The opaque, orange and red glass beads are often included in large, exclusive beaded jewellery from the Germanic Iron Age where there may be several, parallel rows of beads, attached between bead string spacers, and terminal elements fastened to the woman's dress just below the shoulders. These characteristic pieces of jewellery can feature more than 100 glass beads in each ornament. Alongside the orange and red beads, there can also be some monochrome yellow, green, blue or white glass beads together with a small



Fig. 10.11. The chopped-off, cylindrical, tubular glass bead, seen from two sides. Photo: Jens Olsen, Museum Southeast Denmark.

number of polychrome glass beads in such ornaments. Beads made of amethyst first appear in Scandinavia in connection with such sets of jewellery.

Chopped-off, cylindrical glass bead

During the sieving of feature A13358, a short, cylindrical, cut of bead made of dark, cobalt blue glass (x355) (Fig. 10.11) was found. It is made from a thick-walled glass tube with a relatively small, cylindrical hole. Such glass beads made from drawn glass tubes have a clear structure running lengthwise in the glass, parallel to the bead hole. The beads often have blue, yellow and green colours. The larger ones of this type have a diameter between 6 and 12 mm, while the smaller ones have a diameter of 2 to 6 mm. The bead is made of Near-Eastern plant-ash glass of the old, Mesopotamian type, which was traditionally used in glass workshops in the Near East (Callmer 1995). Drawn glass beads are included in Callmer's Bead Group Fa.

This bead belongs to the larger group, which is best described as a short, drawn, cylindrical bead that has been chopped off at an angle. Various methods were used for rounding the chopped-off tube beads, and the larger ones are not rounded in the same way as the smaller ones. The largest of this type of beads were presumably placed on a metal plate covered in ash or sand. The plate was then placed in an oven or fireplace so that the edges of the beads melted slightly and thus became rounded. It is often possible to see that the beads have been more exposed and rounded at one end while the flat end frequently appears uneven, bumpy. The smaller, cut-off, drawn glass beads were likely mixed with ash in a container and heated in a fireplace during constant stirring. Because of the heat, the small, cylindrical pieces melted to a slightly more rounded form. The ash prevents the glass from merging and the holes from collapsing. In terms of production, these cut, tubular beads correspond to Indo-Pacific glass beads (Francis 2002; Sode 2001), but they are made from a different type of glass.

The monochrome, drawn, tubular glass beads occur in large numbers in Ribe from around 780 and onwards, and



Fig. 10.12. Selected silver-foil bead. Photo: Jens Olsen, Museum Southeast Denmark.

they are similarly numerous at other Viking Age trading sites. They constitute about half of the bead material from the oldest layers at Black Earth Harbour in Birka, Sweden, just like they occur frequently in the Birka graves (Danielsson 1973, 76–77). In Hedeby, more than 2500 drawn, tubular glass beads have been found, which is about 35% of the excavated bead material (Steppuhn 1998, 25). Throughout the Viking Age, drawn, tubular glass beads occur in varying numbers and colours (Delvaux 2017).

Segmented glass beads with metal foil

Three segmented beads with metal foil were found (Fig. 10.12). One was found in a waste pit and has three, round segments with silver foil under a thin, brown, outer glass layer (x1179). The second is a segmented glass bead, likewise with silver foil under a brown, outer glass. This bead was found during the sieving of a layer of plough soil and it consists of two almost cylindrical segments with rounded ends and clear, broken fracture surfaces (x322). The third bead is almost ball-shaped with a metallic sheen (x1042). The broken fracture surface is clearly visible as a sharp edge around the bead hole, and the silver foil can be discerned under a broken-down, clear layer of outer glass. The bead was located in the uppermost layer of a well dated to the Viking Age. Olldag refers to such beads as double-layer beads, and beads with silver foil belong to her Type 3200 while beads with gold foil belong to Type 3300. Tempelmann-Mączyńska places the segmented metal-foil glass beads in Group XXIX, and Callmer has them in Bead Group Ea. In the archaeological literature, the glass beads with metal foils are referred to by various names, such as gold or silver-foil beads, gold-glass beads, sandwich gold-glass beads and gold-in-glass beads (Astrup & Andersen 1987; Spaer 1993; 2001; Francis 2002; Sode 2004; Sode & Fèveile 2002). Analyses of the segmented, metal-foil glass beads from Strøby Toftegård show a severely broken-down glass made from plant-ash glass of Mesopotamian type.

Glass beads with gold foil between two layers of glass are known already from the 3rd century BC. The earliest types are



Fig. 10.13. Selected mosaic bead. Photo: Jens Olsen, Museum Southeast Denmark.

figurative relief beads, but also star-shaped, melon-shaped and segmented beads occur. Silver-foil beads, with a thin silver foil underneath either clear or transparent, brown outer glass, do not appear until the Roman Iron Age. The metal foil gives the beads a metallic look. Metal-foil glass beads are a very uniform type, which was apparently a cheap, mass-produced item that imitated genuine gold and silver beads (Astrup & Andersen 1987; Spaer 1993; 2001; Sode & Feveile 2002). At the end of the 6th century, gold and silver-foil beads disappear from the Scandinavian area but continue to occur in the Near East and southern Russia. At the end of the 8th century, segmented, metal-foil beads appear once more across most of Europe. These later beads use exclusively silver foil. By using an outer glass of transparent, yellowish-brown tint, the finished beads will look almost like gold beads, and with a transparent, clear outer glass, the finished beads will look like silver beads.

In Hedeby, Ribe and other Viking Age trading sites, there are usually several 'flawed beads' among the segmented, metal-foil beads; these have an irregular shape. There are also usually some beads whose hole does not go all the way through the bead. Steppuhn interprets these defective beads as evidence of a local production of segmented, metal-foil beads at Viking Age trading sites (Steppuhn 1998). It is, however, more likely that the many finds of flawed, imported glass beads from various places stem from the beads having been bought in their places of origin as mass-produced goods, and then shipped off as loose beads that were only sorted at the market before being sold on (Callmer 2018).

Metal-foil, segmented beads occur in various shapes and sizes. They have varying numbers of segments, which may be round, oval, ring-shaped or roughly cylindrical. The diameter is usually between 4 and 6 mm, but it can be as small as 2 mm and as large as 11 mm. The beads are made of prefabricated glass tubes. The inside appears as a thick-walled glass tube of unevenly coloured glass full of air bubbles that yield a longitudinal structure running parallel to the bead hole. Because of the many drawn air bubbles, the inside of the tube looks opaque, almost milky.

The outside of the tube is made of a thin-walled, transparent glass tube. The beads are probably made by placing strands of the sandwich glass tubes around an iron rod. The glass was then heated until molten, and the bead was shaped using a grooved mould of stone (Rodziewicz 1984; Sode, Feveile & Schnell 2010). The distinct, straight edges that are often visible in the silver foil show that the foil was placed between the two layers of glass in a cold state. The individual segments were subsequently broken off when cold, either as individual beads or as multi-segmented beads. The fracture surface is often visible as a sharp edge around the bead hole. Metal-foil beads with brown outer glass form the clear majority in Ribe (Feveile 2006). While studying the bead material from Black Earth Harbour in Birka, Danielsson was able to observe that beads with a silver foil under brown outer glass occurred in the oldest layers, while beads with a silver foil under clear outer glass are especially common in the more recent layers (Danielsson 1973; Calmer 2018).

Studies of the bead material from Ribe reveal that the segmented, metal-foil glass beads occur from around 780 onwards, at the same time as mosaic eye beads (Andrea 1975; Sode, Feveile & Schnell 2010), green, polyhedral, high lead, glass bead (Steppuhn 1997) and also drawn, chopped, tubular glass beads begin to be imported into the southern Scandinavian areas (Sode & Feveile 2002). Analyses of the segmented, metal-foil glass beads, mosaic eye beads and drawn, cut-off, tubular glass beads show that they were produced from Islamic plant-ash glass, which was used in Islamic glass workshops in the Abbasid Caliphate (Sode 2019).

Mosaic glass beads

Three different types of mosaic glass beads were found, which were either made from or decorated with prefabricated, composite, mosaic patterns (Fig. 10.13). These include a fragment of a cylindrical mosaic bead with alternating diamond- and cross-shaped mosaics (x163). Additionally, there is a heavily heat-affected fragment of a mosaic bead with a chessboard pattern (x128) and an opaque, yellow eye bead with three fused, round mosaics (x171). All three beads were found while sieving plough soil.

Cylindrical, mosaic eye bead with diamond- and cross-shaped pattern

The cylindrical, mosaic eye bead (x163) is a fragment where just over two thirds of the bead are preserved (Fig. 10.14). Cylindrical, mosaic eye beads occur in different numbers and with different types of mosaic patterns (Andrea 1975; Callmer 1977, 89–90; Høilund Nielsen 1987). The fracture surface of the bead reveals that it originally consisted of three rows of mosaics, and it is also possible to tell that the mosaic pattern goes all the way through the bead. The bead is made of blue,



Fig. 10.14. Cylindrical, mosaic eye bead. Photo: Jens Olsen, Museum Southeast Denmark.

mosaic patterns with a yellow and red diamond pattern, which alternated with a blue, mosaic pattern with yellow cross-arms and a red centre. This may portray a saltire or St. Andrew's cross which was a widespread protective symbol in ancient and medieval times. The bead belongs with Callmer's Bead Group Ga, dated to the Early Viking Age. These mosaic eye beads are extensively described by Andrea (Andrea 1975, 101). Mosaic eye beads occur at the market site in Ribe, especially in layers dated between 800 and 820 (Sode, Feveile & Schnell 2010; Delvaux 2017).

The bead is produced by fusing together the alternating mosaic patterns and subsequently wrapping these around the mandrel while still hot. The joint, where the glass mosaics have melted together, is clearly visible. The bead was finally decorated with red glass threads melted onto the bead around the outer points of the bead.

When producing mosaic eye beads, the beadmaker first has to make the various mosaic patterns that decorate the bead. One starts by building up the central part of the mosaic pattern and subsequently melting new glass onto the already shaped glass, and this process continues until the desired pattern has been created. Every time a new colour is added, you have to heat up and melt together the glass in order to avoid air bubbles between the different colours of glass. Air bubbles may later cause the glass to fracture, when the finished mosaic pattern is drawn out into a thin, mosaic rods. Since glass preserves a given pattern, no matter how much it is drawn out, the final motif in the finished mosaic thread will look very precise. When cool, the mosaic thread is chopped into small, mosaic canes of about half a centimetre in length.

The mosaic eye beads were probably made by placing the mosaic rods upright next to one another on a moveable plate, which is then placed in the furnace. Here, the sides of the mosaic rods melt together, so that the cross section makes up the pattern of the bead. A mandrel is then placed on the fused mosaic rods, which are folded around the mandrel, and, finally, the bead is shaped. Depending on temperature and how carefully the beadmaker is, it is possible to melt the mosaic rods together very precisely.

Mosaic bead with chessboard pattern

Also a fragment of a heavily heat-affected mosaic bead was found. This has a chessboard pattern and is adorned with a combination of square motifs with alternating white/blue and yellow/blue glass, framed by red glass. The analyses of this bead show that the blue glass is Roman natron glass coloured with cobalt. The yellow and white glass is likewise Roman natron glass with a mixture of tin and antimony, which indicates that old, Roman glass has been recycled, presumably antique glass tesserae. The red glasses in the two different mosaic motifs are analytically distinct. The red frame surrounding one of the mosaic patterns is made of Roman natron glass, while the other is made of high-alumina glass of a type similar to the opaque, red beads from the Germanic Iron Age. This likewise suggests that the bead is made from recycled glass.

Mosaic beads with chessboard patterns were very popular in the 8th century, but the type continues into the Viking Age and is often regarded as a typical Viking Age bead, in spite of the fact that mosaic beads with chessboard patterns are known already from the Late Roman Iron Age onwards (Olldag 1994, 236–237). In connection with the excavations in Nydam Mose, several sword beads from the 4th century, carrying chessboard patterns, were found (Rau 2010), and, in Scandinavia, beads with chessboard patterns are also found in graves from both the Late Roman and the Germanic Iron Age, as well as from the early Viking Age.

It is plausible to imagine that imported Roman glass tesserae, originally used for making wall and ceiling mosaics in the Mediterranean area, were used as raw material in the production of chessboard patterns.

The trading site of Ribe has yielded a range of examples of locally produced mosaic beads with chessboard patterns, while raw materials in the shape of mosaic rods, mosaic threads and already produced mosaics with chessboard patterns have also been found (Sode 2004, 94–95). In order to produce mosaic rods with chessboard patterns, the beadmaker melts together small, square pieces of coloured glass. It seems likely that imported Roman glass tesserae, originally used for making wall and ceiling mosaics in the Mediterranean area, were used as raw material in the production of glass bead with chessboard patterns. The Benedictine monk Theophilus Presbyter describes in his *De Diversis Artibus*, written around 1100, that mosaic glass from old, heathen buildings were melted down and used as coloured glass in Frankish and Byzantine glass workshops (Theophilus 1979). Such glass tesserae are found in great numbers in Ribe, but they also appear in other Scandinavian finds from the Late Iron Age (Henderson *et al.* 2019). Due to their cubic shape, they were ideal as raw material when producing chessboard patterns. In this way, design and pattern may have been influenced by the raw material. Molten glass will always take a round shape, and so it is not natural for a glassmaker to create a square motif. But if the



Fig. 10.15. Selected bead made of northern European potash glass. Photo: Jens Olsen, Museum Southeast Denmark.

raw material was square from the very beginning, and this is combined with the relatively low working temperatures of the glass beadmakers, the pattern may well have arisen because of the shape of the raw glass. The many finds of semifinished products and waste from the beadmaker workshops in Ribe reveal that there was a local production of mosaic beads in the first half and the middle of the 8th century. The southern Scandinavian area has yielded a large number of Late Iron Age and Early Viking Age graves containing mosaic beads with chessboard patterns. This type of bead belongs to Callmer's Bead Group Ga and Type 2408 in Olldag's bead typology.

Mosaic eye beads

One opaque, yellow glass bead with three inlaid mosaics in the form of polychrome eyes was found. The almost cylindrical bead with rounded ends is decorated with three identical mosaic eyes with a dark brown, almost black, centre and a surrounding pattern of alternating greyish-white and dark brown threads. The bead is made by firstly producing a monochrome yellow glass bead onto which the three prefabricated eye mosaics have been placed and melted. It is possible that beads with eye motifs were in ancient times thought to hold special, magical powers. They may have been used as amulets that were able to protect against accidents, illness, death and destruction (Sode 1994, 12–13). Tempelmann-Maczyńska places mosaic eye beads in her Group XVIII. The bead belongs to Type 2413 in Olldag's typology, and she refers to this type as *millefiori* beads with flower decorations. Such beads were common in the Late Roman Iron Age, but the type continues into the Viking Age and belongs to Callmer's Bead Group Bn.

Beads of northern European potash glass

Towards the end of the 8th century, a new type of glass appeared in the heavily forested areas of northern Europe, using wood ash as a flux instead of soda. This new type of glass is known as northern European potash glass, or *waldglas*, which is the German term for the glass. Wood

ash contains among other things potassium oxide, which functions as a flux that lowers the melting point of glass, and calcium oxide, which together with calcium functions as a stabiliser in the glass.

The analysed glass material contains five beads produced from European potash glass (Fig. 10.15). These are a wound, almost cylindrical, fluted bead made of transparent bluish-green glass (x67), found in connection with sieving a layer of plough soil. The green colour, which is typical of transparent, northern European forest glass, is caused by iron oxide. Three fragments of a corresponding green, fluted bead (x145), likewise found in a soil-sieving trench, may be made of the same type of potash glass, but they have not been analysed.

Also, while sieving feature A12754, half of a severely broken-down, ring-shaped bead (x140) was found. It is made from light-brown glass with serpentine thread decoration, and, due to the deteriorated glass, the bead appears optically as greyish-blue glass with dark brown thread decoration (x140).

An opaque, reddish-brown bead, which was originally decorated with a now missing figure-of-eight thread pattern (x237), was found during the sieving of feature A12758. The bead appears to be a mixture of potash glass and soda glass, which is another indication that local beadmakers have melted down whatever glass was locally available in connection with their production of glass beads. The bead belongs to Callmer's Bead Group Ba.

In a waste pit a bead made of opaque, bluish-white glass with a depression after an originally circulation zigzag decoration was found (x692). This bead belongs to Callmer's Bead Group Bb. The glass has a high phosphorus content, possibly derived from bone ash. Unlike potash glass from the Viking and Early Middle Ages, the glass in this bead is very well preserved and is analytically distinct from other early potash glass. So far, the bead remains a mystery and is difficult to date, since our knowledge of early European wood-ash glass and beads made from potash glass is still very limited. In connection with the analyses of the glass, a piece of slag from potash glass (x189) was also found.

Beads in the Late Iron Age

After the fall of the Western Roman Empire, Germanic, Frankish and Slavic glass-bead makers continued to produce glass beads in workshops across Europe. The clearest evidence of the presence of local beadmakers in Central, Western and Northern Europe can be discerned from the archaeological bead material. There are significant differences between the types of beads found in the Frankish, Anglo-Saxon, Slavic, Frisian and Scandinavian areas. Although there were many contacts between the North and the Western European areas during the Late Iron Age,

glass beads of, for example, Merovingian, Anglo-Saxon or Frankish origins only rarely occur in Scandinavia.

In contrast to the broad colour palette characteristic of glass beads in the Late Roman and Early Germanic Iron Age, matte, opaque orange, and red beads make up the majority of beads used in necklaces and beaded jewelry during the 7th century. In the Danish area, orange beads dominate (Ørsnes 1966; Sode 2019).

In central Sweden and the Lake Mälaren region, red beads have a clear majority (Petré 1984), and on Gotland, people apparently continued to adorn themselves with matte, opaque orange and red beads in the 8th century (Trotzig 1988). So, there are clear, local differences in the use of glass beads.

At the beginning of the 8th century, the bead fashion changes in southern Scandinavia. The large, beaded ornaments with huge set up of with opaque orange and red beads apparently fall out of fashion and are replaced by necklaces dominated by transparent, blue glass beads.

This shift is so marked that Johan Callmer refers to the bead fashion until the middle of the 8th century as ‘the blue period’ (Callmer 1997; 2007). The monochrome glass beads are dominated by dark blue ring-shaped, short cylindrical, square, melon-shaped and cornerless-cube beads. Cobalt blue beads are moreover found with different kinds of thread decorations. Blue glass beads with monochrome or polychrome zigzag decorations are found in great numbers, mainly with white and red, but also yellow, threads melted onto the bead. The bead material also contains different types of glass beads with applied polychrome filigree threads, and such beads are often referred to in archaeological literature as reticella beads (Henderson 2000, 72). Also various kinds of mosaic beads with chessboard patterns and glass beads with different kinds of eye motifs are represented.

Right after the middle of the 8th century, the number of blue glass beads in jewellery became more rare. Following this, the beads generally become somewhat smaller, and the range of colours is dominated by deeper, greyish-blue hues, as well as opaque red and green cylindrical beads and other monochrome glass beads. Also at this time, a new type of thread-decorated beads appears, the so-called wasp beads (Callmer’s Bead Group Bk).

At the end of the 8th century, the bead material changes character once again and now becomes dominated by imported, Islamic glass beads, produced in glass workshops of the Abbasid Caliphate. Among these are the so-called mosaic eye beads (Andrea 1975; Høilund Nielsen 1987), as well as metal-foil, segmented glass beads, blown glass beads with an inside coating of lead (Sode, Feveile & Schnell 2010). The period also features green, polyhedral beads with a very high lead content (Steppuhn 1997). The Early Viking Age sees the emergence of chopped, drawn, Islamic, tubular glass beads in great numbers within the archaeological record, and also beads of carnelian and rock

crystal become more common. All through the Viking Age, the bead material is dominated by glass beads produced in workshops within the Abbasid Caliphate.

Glass-bead production in southern Scandinavia

The glass-bead maker is one of the highly specialised craftsmen who appear in southern Scandinavia in the Late Iron Age. Locally produced glass beads are known from trading and market sites, but also from graves, central places and magnate farms. The glass-bead makers were apparently travelling craftsmen who journeyed to markets and central craft sites where they established temporary workshops. The beadmaker’s tools consisted of simple, lightweight kinds of tools, such as mandrels, shaping and colouring irons. The fireplace or bead furnace was constructed locally from clay, and local inhabitants could to some extent bring along sherds of broken glass and other types of glass waste, which was then melted down and used as raw material (Sode 2002). The problem of locating workshops where beads were produced stems from the fact that the beadmaker did not normally leave behind very many or clear traces, while subsequent ploughing, wind and weather will have worked to remove any remains of fireplaces or furnaces.

The oldest finds that suggest local glass-bead production in Scandinavia are from the middle of the 4th century where the trading site at Lundeberg in Funen has yielded various forms of melted glass droplets, coloured glass threads, flawed and discarded beads and other kinds of waste from glass-bead production (Thomsen 1995; 2002).

In Sweden, a trading and workshop site whose heyday was from around 400 to 700 has been excavated on the island of Helgö in Lake Mälaren. In addition to complete beads, also lumps of glass, melted droplets, glass threads and other kinds of waste from glass bead production have been found here (Lundström 1978; 1981). At the trading site of Birka, located on the island of Björkö, likewise in Lake Mälaren, the remains of bead production have also been found (Danielsson 1973; Arwidsson 1984). Birka was founded at the end of the 8th century and existed until sometime in the 10th century. At Herrebro in Östergötland, which is interpreted as a seasonal marketplace (Nielsen & Lindeblad 1992), and also at the magnate site of Slöinge in Halland, beads and glass waste pointing in the direction of local bead production have been found (Lundquist 1996). At Paviken on Gotland, which is a trading and workshop site that was in use from the middle of the 8th century until sometime around the middle of the 10th century, glass beads, glass rods, melted drops, glass threads carrying marks from pliers and other bead-production waste have also been found (P. Lundström 1981). At the harbour and trading site of Fröjel, various types of waste have been found that suggest another, Gotlandic bead production (Carlsson 2003). The archaeological material shows that, on Gotland in the

8th and 9th centuries, there was a significant production of glass beads, including mosaic beads with colours and patterns only rarely found outside the island. At the Viking Age trading site of Kaupang in Norway, finds have also been made that suggest local bead production (Wiker 2003; Gaut 2011). The same applies to Hedeby in Schleswig (Steppuhn 1998), as well as the trading sites of Gross Strömkendorf (Pöche 2005) and Wolin on the southern coast of the Baltic Sea (Olczak 1971).

The best example of local bead making, however, comes from the marketplace in Ribe, where more than 30,000 pieces of glass, beads and bead-production waste from the Late Iron Age and Early Viking Age have been excavated. The glass and bead material from Ribe is unique in terms of the number of beads, semi-finished products, raw material, production waste, tools and workshops with remains from bead making. The special find conditions at Ribe have made it possible to subdivide the archaeological material from around 710 until 850 into a sequence of phases, which are possible to date very precisely (Näsman 1979; Sode 2004; Feveile 2006). At Helgeåen, just outside of Åhus in north-eastern Scania, a trading site holding remains from a significant bead production has also been excavated. The majority of the glass-bead material from Åhus can be dated to between 700 and 760 and agrees with the bead material from the early Ribe in terms of dating, technique, bead types and colours (Callmer 1990; Callmer & Henderson 1991). In connection with the excavations, 71,896 pieces of glass were found, 1987 of which were beads, with 59% being cobalt blue, 19% opaque white and 9% were different types of polychrome beads. Moreover, 919 tesserae were found, 856 fragments of vessel glass and various kinds of raw glass and waste from glass-bead production. The main part of the glass material consists of small, cobalt blue glass splinters, small sherds of glass and micro-flakes, and this blue glass constitutes in numbers more than 78% of the total glass material (Callmer & Henderson 1991). There is much to suggest that there may have been a family or group of beadmakers in both Ribe and Åhus. The archaeological material shows that there was a uniform production of glass beads, alongside an extensive trade in broken glass and various other types of raw glass.

The function and significance of glass beads

During the Iron and Viking Ages, glass beads were worn by girls and women in necklaces and other items and sets of beaded ornaments, just like they were used as decoration in hairnets, on scarves and dresses. Occasionally, glass beads that are several centuries old are found in jewellery, which appears to indicate that it was common to pass beads on to younger family members, so that they may have been inherited through generations, possibly in connection with weddings or rites of passage.

Glass beads are also known from male graves where one or more beads are frequently found near the hips. These beads may have been used as decoration on a knife sheath or as closure on a purse carried in the belt. During the excavations of the great, sacrificial find in Illerup Ådal, which are dated to mid-Roman Iron Age, more than 100 glass beads were found together with combs, whetstones, sherds of glass, metal pieces and other personal goods in the purses of warriors (Ilkjær 2000). Likewise, a number of male graves in Birka contained, among other things, one or more glass beads.

In Iron Age warrior graves and in sacrificial weapon finds, large, high-status sword beads are often found; these were placed on a sword or sheath, apparently to protect the sword so that it does not lose its power and strength (Jørgensen 2008, 54; Rau 2010). Because the Norse mythology shows us how people believed that the power of the eye was able to ruin swords and weapons, the straightforward interpretation of sword beads would be that they are apotropaic items intended to protect the sword against the evil eye (Sode 1994.). In Old Norse literature, the evil eye is a well-known and feared phenomenon, and the many hints at the power of the eye are often described in Norse literature. In the sagas, the phenomenon of the evil eye is associated with Finns, Bjarmians, berserks and sorcerers. The saga of Grettir the Strong describes the evil eye and its terrible effects. The story tells of how Grettir is seeking to rid the local area of a violent ghost, Glámr, and that they fight for one whole night. During their fight, the moon emerges from the clouds for a moment, and as Grettir looks into the eyes of Glámr, he is paralysed with terror. From that moment on, he is scared of the dark. His physical and mental strength is gradually broken down and, eventually, his enemies get the upper hand and kill him. The magical powers of glass beads are also illustrated in the saga of Erik the Red, which tells of how the seeress Thorbjörg wears a necklace of glass beads while carrying out a *seiðr* ritual during which the Norse inhabitants in Greenland are asking her when the hard times might come to an end.

Beads of rock crystal and carnelian

Four beads of rock crystal and three made of carnelian were found at Strøby Toftegård. Beads made from these materials are known from the Scandinavian area already around the 7th century AD (Ørsnes 1966, 171; Myhre 2010), but it is not until the Viking Age that they become common and are found in hoards, trading sites, settlements and graves. The graves usually throw up just a few beads of rock crystal and carnelian, and usually together with glass beads (Calmer 1977, 99). However, there are wealthy female graves from Birka and Hedeby, which contain mainly carnelian and rock-crystal beads (Arbman 1943; Delvaux 2017). In a wealthy woman's grave discovered at Tuna, Uppland in Sweden, a high-class

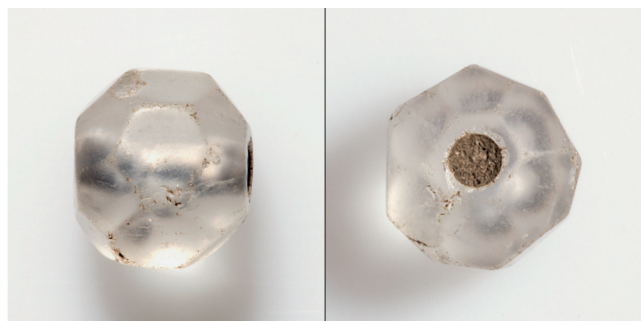


Fig. 10.16. Selected rock-crystal bead. Photo: Jens Olsen, Museum Southeast Denmark.

jewellery set consisting of beads made from rock crystal and carnelian, together with other pendants, was found (Arne 1934). Viking Age hoards often contain carnelian and rock-crystal beads together with silver jewellery, Arabic coins and other items imported from the East.

Rock-crystal beads

Soil sieving yielded one round, octagonal bead of rock crystal (x362), one elongated, octagonal bead with a prismatic cut (x364) and one cornerless-cube bead (x852), as well as a stray find of an almost globular rock-crystal bead (x1060) (Fig. 10.16). These four beads made of rock crystal can presumably be dated to the Viking Age.

Rock crystal is a colourless, clear, crystallised quartz consisting of silicon dioxide. Rock crystals are commonly formed as a regular, hexagonal prism ending in a hexagonal pyramid. The word crystal comes from the Greek *krystallos*, which means ice. In Antiquity, people thought that rock crystal was fossilised ice formed by a special stone liquid (Pliny 1962). This may be the reason why people believed that rock crystal had the ability to combat childbed fever and other kinds of fever. If you had a fever, you could hold a rock crystal in your hand and, according to folk belief, the coolness of the stone would lower the fever (Dragsted 1967). Tincture made of rock crystal was often an ingredient in medieval medical recipes, both for internal and external uses. In pulverised form, rock crystal was used against bladder and kidney diseases, and it was also thought to be an effective antidote to quicksilver. Rock crystal was additionally believed to cure dizziness, oedema and melancholia, and the stone could also slake thirst (Kristensen 1908–1920, xli; Garboe 1915; Dragsted 1967).

The earliest finds of rock-crystal beads in Scandinavia are from the Late Iron Age. Among others, a late 7th-century woman's grave from Haukland near Lund, Rogaland in Norway, contained a necklace with beads of rock crystal and carnelian together with glass beads (Myhre 2010). At Bækkegård in Bornholm, grave 132, which is dated to around 700, contained a faceted, cornerless-cube bead, a large, irregular round bead and a smaller, round bead, all

made of rock crystal (Ørsnes 1966, 171; Jørgensen 1990). At the marketplace in Ribe, which ceased to operate in the mid-9th century, both beads and pendants made of rock crystal have been found (Feveile 2010, 25).

Archaeological studies show that southern Norway had a local production of rock-crystal beads during the Late Iron Age, Viking Age and the Early Middle Ages (Myhre 2005; 2010). Several sites featuring the production of rock-crystal beads have been found in the mountains north-east of Stavan-ger. A find from Suldal features roughly chopped raw items, polished and burnished crystals, beads with holes drilled through, as well as beads that have broken in connection with drilling the hole. A find from Finnabu contains more than 250 chips and fragments of roughly chopped, often rounded, pieces of rock crystal, together with an uneven, round piece with a drilled hole through it. Near a longhouse at Valldalsætteren in Rørdal, a workshop site from the Viking Age and Early Middle Age was found. Here, 980 pieces of semi-finished products from bead production were found, in the shape of chips and partially worked pieces of rock crystal. Ten crystals were both chopped into shape and polished, several had bead holes drilled through them and others featured unfinished drill holes. The site also contained two elongated pieces of silica shale with polished grooves whose cross measures are the same as those of the rock-crystal beads, and they were probably used for polishing pieces of rock crystal (Myhre 2005; 2010).

The excavations at the Norwegian trading centre Kaupang, which is dated to the 9th and 10th centuries, revealed 59 beads made of rock crystal of seven different shapes, found in both female and male graves. Roughly half of these are uneven, round beads of poor artisanal quality (Heyerdahl-Larsen 1979). These irregular round beads are understood as locally produced beads, while the faceted and almost spherical beads are regarded as imports from the East (Myhre 2010; Resi 2011). Also, natural rock crystals, fragments and roughly chopped raw items were found at Kaupang. The archaeological material thus suggests that beads of rock crystal were produced at both Kaupang and in the mountains of southern Norway, where rock crystal occurs naturally. A bead necklace with 33 beads from the Early Viking Age was found at Hausken on the island of Finnøy in Rogaland. The necklace consists of 12 glass beads, four carnelian beads and 17 rock crystal beads, with most of the rock-crystal beads roughly honed and very uneven of shape (Myhre 2010; Resi 2011). In Norway, rock-crystal beads are found in graves in the southern part of the country and all across the western part up to Tromsø in the north (Heyerdahl-Larsen 1979).

At Hedeby, 228 beads of rock crystal were found, being of ten different faceted and round shapes, all of a very uniform and high artisanal quality (Hepp 2007; Müller 1970; Schietzel 2014, 549). At Birka, 354 beads of rock crystal were found in both female and male graves. In connection



Fig. 10.17. Selected carnelian bead. Photo: Jens Olsen, Museum Southeast Denmark.

with the archaeological excavations of the harbour area in 1970–71, 73 whole or fragmented rock-crystal beads were found, as well as a piece of raw, unworked rock crystal (Danielsson 1973).

High-quality rock crystals in the shape of both beads and pendants have been discovered in connection with finds from the Viking Age and the Early Middle Ages in Gotland. During the excavations at Fröjel, more than 100 pieces of rock crystal were found in the form of chips, raw pieces and finished beads, which indicates that there was a local production of rock-crystal beads in Viking Age Gotland (Carlsson 1999).

Likewise, remains of a workshop environment featuring the processing and polishing of rock crystal were found during the excavations of Trädgårdsmästaren 9 and 10 in Sigtuna, Sweden. Here, *inter alia* nine unpolished rock crystals were found. The oldest layers have revealed beads alongside raw rock crystals, while the youngest layers disclosed various mounted rock-crystal stones (Dock 1990, 89–90). In the Middle Ages, rock crystals were used as prayer beads and as mounted stones in jewellery, church inventory, book covers, crucifixes and containers for relics.

Carnelian beads

A cornerless-cube bead made of carnelian was found in a pit house (x136), a fragment of a hexagonal tube bead was found during the sieving of a layer of plough soil (x137) and a round, octagonal bead has been recorded as a stray find (x649) (Fig. 10.17).

Carnelian is the red variant of chalcedony, which consists of micro-crystalline quartz. The red colour of carnelian varies from whitish yellow or light orange to deep red or reddish brown. Often, there are lighter or darker spots or lines in the stones. Unlike most other semiprecious stones, which lose their colour if exposed to heat, the red colour of carnelian becomes darker and more intense if it is exposed to strong sunlight or heat.

Even far back into Antiquity, carnelian was a desirable gemstone, which was thought to possess magical and healing properties. In ancient Egypt, Mesopotamia, Greece and

Rome, jewellery amulets and beads of carnelian were used, just like the stone was also used in rings, signets and as mounted stones in jewellery and pieces of furniture. It was thought that the red stones had a positive influence on life and so they symbolised blood, virtue and fertility. Because of this, carnelian was often used as talismans that were intended to bring luck and a marriage full of love. The stone was furthermore believed to have a soothing effect on a hefty temperament, protect against depression and also endow its owner with a sense of humour (Dragsted 1967, 32–33).

Beads made of carnelian occur in Scandinavia from the end of the 8th century (Ørsnes 1966, 171; Callmer 1977, 91; Heyerdahl-Larsen 1979). Such beads are known from wealthy graves, often together with other imported goods, and are also found in hoards, at trading sites and magnate farms. An overview of carnelian beads from Norwegian graves shows that they occur mainly in finds from the 10th century (Heyerdahl-Larsen 1979). The excavations of the harbour area at Kaupang revealed 57 carnelian beads of five different shapes (Resi 2011). The harbour area of Birka revealed 47 carnelian beads and 83 pieces from both female and male graves where they often occur in necklaces together with glass beads and pendants (Danielsson 1973). In Hedeby, 195 beads of carnelian were found, being of ten different round or faceted shapes, all of them of a uniform and high artisanal quality (Schietzel 2014, 549).

Carnelian of a quality good enough to produce jewellery does not occur naturally in the North (Jankuhn 1943, 112; von Müller 1970). It is therefore a point of discussion whether carnelian beads found in the Nordic area during the Late Iron and Viking Ages originate from the Caucasus, India or other places in the Oriental region (Danielsson 1973; Heyerdahl-Larsen 1979; Callmer 2018). However, all scholars who have studied carnelian beads from Scandinavian archaeological finds agree that the beads have been imported from places in the East. The widespread occurrence of carnelian beads in Eastern Europe and Russia with cuts and shapes similar to those from Scandinavia likewise suggest trading activity in the East (Danielsson 1973; Hepp 2007; Resi 2011; Schietzel 2014).

Apart from access to the raw material, you also need the technical knowledge and the command of the processes required for producing gemstone beads. Archaeological sites in north-western India, where there is a millennium-old production of carnelian beads, always feature large amounts of faulty beads alongside production waste in the form of roughly hewn stones, chips and splinters from working on raw stones (Francis 1982).

The many finds of gemstones in Birka and Gotland suggest that carnelian and rock-crystal beads can be linked to Swedish, Viking Age trade with the East, presumably through a direct contact going via the Volga and other Russian rivers to the Khazars, an enterprising trade people in the Caucasus (Stenberger 1964).



Fig. 10.18. Bead made from a fossil coral. Photo: Jens Olsen, Museum Southeast Denmark.

Already the early Indus Valley Civilisation in the 3rd millennium BC, located in Pakistan and India, had a significant production of beads made from carnelian, agate and other semiprecious gemstones. In the ancient cities of Chanhudaro by the River Indus and Lothal at the head of the Gulf of Khambhat, both belonging to the early Harappa culture, several workshop areas featuring the production of carnelian, agate and lapis lazuli beads have been excavated. Similarly, by the mouth of the Narmada River, which runs into the Gulf of Khambhat, Harappa settlements have been excavated which hold workshops where agate and carnelian beads were made (Francis 1982). The raw carnelian and agate stones were mined especially from geological deposits in north-western India and Baluchistan in present-day Pakistan. Carnelian stones from this area have a high content of iron oxide, which means that the desired, dark-red colour can be obtained by heating the stones (Kenoyer, Vidale & Kumar Bhab 1991).

For thousands of years, the areas around the Narmada have been one of the most important regions for extracting carnelian and agate. The raw carnelians are gathered outside of the monsoon season on the dried-out river plain. Already in Antiquity, there was regular mining to extract gemstones. On the sandy river plain, mine shafts were dug into the ground. When conglomerates or layers with depositions of gemstones were encountered, these were chopped loose using primitive picks and hoisted up to the surface. Following that, the stones were sorted and transported to the city of Ujjain where archaeological finds show there was an extensive production of carnelian and agate beads (Francis 1982; Kenoyer, Vidale & Kumar Bhab 1991). Subsequently, beads and gemstones were transported down the river to the port of Bharuch and from there either by caravan along the Silk Road or by trading ships to Mesopotamia or Egypt. Here, large amounts of beads made from carnelian, agate and lapis lazuli are found already in the 3rd millennium BC.

This trade in gemstone beads is among the earliest evidence of long-distance trading between India and the

Near East. Several Sumerian cuneiform tablets describe sea transport and trading ships (Mohanty & Thakuria 2016; 2017). Sumerian and Indian tradesmen learnt early on to use the semi-annual monsoon winds for sailing between India and the Arabian Peninsula. No later than during the 1st millennium BC did Persian and Asian sailors learn to cross the Arabian Sea between India and the Red Sea, and this was the route by which beads and other exotic goods were exported to the Near East and the Roman Empire.

In the ancient Greek navigational documents *Periplus of the Erythraean Sea*, which were written towards the end of the 1st century AD, it says that carnelian, agate and other gemstones were imported from India. The text provides detailed information about the sea route to India and also describes how carnelian and agate were shipped from the port of Bharuch. It moreover explains that items made of agate and carnelian were produced in the city of Ujjain (Francis 1982).

North-western India has since ancient times been the most important area for the production of carnelian beads. Even today, there are still traditional beadmakers in the city of Khambhat, which is located at the northern end of the Gulf of Khambhat where an extensive production of carnelian, agate and rock-crystal beads is located. The techniques and methods still used today are essentially unchanged since ancient times (Arkell 1936; Francis 1982; Kenoyer, Vidale & Kumar Bhab 1991).

Bead made of fossil coral

In a posthole in House 2 (A10422), a cylindrical bead made of fossil coral was found (x436) (Fig. 10.18). Beads made from fossil coral occur with some frequency in finds from, for instance, Gotland, but they are also known from other finds in southern Scandinavia. Such beads are, however, far from common in Denmark. It does not appear to be made from a coral originating in the Danish Cretaceous period. By the looks of it, this is a much older coral that may be over 300 million years old and is found in, among others, German and English chalk formations. For precise information, it would be necessary to have the bead geologically analysed.

Garnets

During the excavations of Strøby Toftegård, six red garnets were found. These comprise one whole crystal of garnet (x340), three sizeable, raw garnets (x318; x365; x1043) and two severely fragmented garnets found during sieving (x964; x1302) (Fig. 10.19). The last find is interesting, because it consists of 15 splinters of garnet, of which one has clear cut marks on one side, showing that the garnet had been worked for use in cloisonné decoration. Three of the garnets were found in House 2 (x318; x340; x365) and can be linked to the workshop area that seems to have



Fig. 10.19. Selected raw garnet. Photo: Jens Olsen, Museum Southeast Denmark.

been placed inside the house itself and in the area between Houses 2 and 4 (see Fig. 10.2).

Transparent, red garnets were often referred to as almandines in ancient times and, especially during the Germanic Iron Age, they were used for inlaid cloisonné decoration on high-class jewellery, riding equipment, prestige weapons and other high-status objects. In Sweden, several finds of workshops feature garnets. At Paviken, 258 garnets were found within an area comprising c. 20 m² in the south-eastern part of the area (P. Lundström 1981, 90). At Gamla Uppsala, a burnt-down house from the 6th or 7th century revealed traces of various craft activities. One corner of the house threw up a fairly large concentration of garnets, gold, silver and other production waste stemming from cloisonné work (Ljungkvist & Frölund 2015; Ljungkvist, Lundahl & Frölund 2017). Analyses of garnets from Gamla Uppsala show that they originate in India (Suzanne Greif, Römisch-Germanisches Museum Mainz, pers. comm.).

In ancient times, red and reddish-brown garnets were commonly referred to as carbuncles – a term that could also cover rubies and other red gemstones. Red gemstones were believed to possess healing properties and were thought to bring health and honour. Garnets were moreover thought able to cure heart palpitations, avert accidents and illness, as well as protect against poison, plague and lightning (Dragsted 1967, 73). It emerges from the lapidary by the medieval Danish botanical and medical writer Henrik Harpestræng that garnets made you just and righteous, just like the red stones were a symbol of the eternal glow of friendship (Kristensen 1908–1920, xld).

Lapidaries

An exciting, but rarely used, source for understanding pre-historic gemstones and stone beads is found in the so-called lapidaries or stone books from Antiquity and the Middle Ages. These texts describe the mineralogical, medical and healing properties of many gemstones, as well as the places in which they may be found.

Medieval lapidaries are often translated or edited versions of works by early, classical writers. Especially Pliny the Younger's *Natural History* was a main source for later descriptions of gemstones. Mediated by Gaius Julius Solinus, the Spanish poly-historian Isidore of Seville and Marbodius of Rennes, Pliny's descriptions were transmitted to medieval authors, who then often mixes it with material from other sources (Kristensen 1908–1920, xli; Foote 1982).

In Denmark, the medic and cleric Henrik Harpestræng from Roskilde (died 1244) is given credit for writing a lapidary that has been preserved from the 13th century. Harpestræng, who wrote in Danish, authored a great many works and is regarded as the most significant medical author from the medieval North. Harpestræng's lapidary describes 62 gemstones, their origins, as well as their mineralogical, medical, supernatural and magical abilities. Harpestræng's stone book is part copy, part edited version of works by older, Latin authors. Particularly Marbodius' *Liber Lapidum*, written at the end of the 11th century by Bishop Marbodius of Rennes, is thought to have constituted one of the main sources for Harpestræng's lapidary.

The Icelandic manuscript *Hauksbók* from c. 1310 contains a fairly short excerpt from an older lapidary under the heading *Seven Gemstones and their Nature* (Foote 1982, 117). *Hauksbók* is a collection of early Norse texts, including *Landnámabók* (the Book of Settlements) alongside various sagas of Icelanders, among these the oldest known version of the Saga of Erik the Red.

Summary

The bead material from Strøby Toftegård gives a good impression of the types of beads that were in use in eastern Zealand during the Late Iron Age and Early Viking Age. A large proportion of the glass beads occur throughout the entire Iron Age, but it has nonetheless been possible to date some of the beads by comparing them to beads from graves and trading sites, such as the extensive bead material that was excavated at the market in Ribe, which was in use c. 710–850 (Näsman 1979; Sode 2004; Feveile 2006; Andersen & Sode 2012). Exactly in Ribe, it has been possible to subdivide the development of the marketplace into precise chronological phases with a well-documented stratigraphy and dating.

The large concentration of glass beads from Strøby Toftegård (72% of the total find of glass beads), sherds and slags of glass (60% of the total find of sherds and slags of glass), rock-crystal beads (50% of the total find of rock-crystal beads) and raw garnets (50% of the total find of garnets) that were found in and around House 2 indicate that this area was home to some sort of workshop activity involving jewellery production. The presence of whole and half glass beads, sherds of glass, glass slag, glass threads and glass waste are interesting, because similar constellations

often occur in connection with finds of glass-bead workshops. Unfortunately, decisive evidence pointing at a local production of glass beads is lacking – the glass and bead material is simply not abundant enough to prove this, and any concrete traces of a workshop are also lacking.

The beads and semiprecious gemstones from Strøby Toftegård show that, through the Late Iron Age and Early Viking Age, there were links to not only Near-Eastern but apparently also Asian areas. The opaque red and orange glass beads, which occur in large numbers in jewellery sets of the 7th century, are predominantly made from a mixed soda-and-potash glass with a high content of alumina. In Europe, beads made from this type of glass only rarely occur outwith the North European area, and the type of glass, which is most like the glass in these beads from the Germanic Iron Age, is found in so-called Indo-Pacific glass beads, which occur in very large numbers in various areas in South-East Asia (Francis 2002; Sode, Gratuze & Lankton 2017).

Chemical analyses of 7th century glass beads show that the opaque orange and red beads are made from this high-alumina glass. These analyses have also revealed that the opaque, red glass that was used to produce one of the mosaic patterns on the bead with chessboard patterns (x128) is of the same high-alumina glass type, while the red colour in the other mosaic pattern is Roman natron glass. Analyses of a chessboard-pattern bead found in a late 8th century grave from Nørre Sandegård in Bornholm show that the red glass in one of the mosaic patterns is likewise made from high-alumina glass while the red glass in the other mosaic pattern is made from Near-Eastern soda-potash glass (Sode, Gratuze & Lankton 2017).

At the present time, it cannot be determined whether the opaque orange and red high-alumina glass was imported as finished beads or as raw glass that was then used in connection with local production of glass beads in 7th century Scandinavia. The remains of opaque, red glass were found in a fragmented melting pot from Gotland, and analyses reveal that this red glass is an opaque, high-alumina glass. The Swedish archaeologist Birger Nerman has suggested that the melting pot must have been used to produce red glass-paste beads (Nerman 1951). This is an obvious interpretation, but an alternative is that the pot may have been used for melting glass in connection with enamel work.

The orange and red beads made of high-alumina glass occur at the same time as exotic pendants made of kauri mussels, and beads fashioned from marine mussels in the Indian Ocean, alongside beads of carnelian, rock crystal and amethyst, first appear in the Scandinavian material (Ørnes 1966, 171; Johansson 1995,). Pliny writes that the best quality amethyst comes from India (Pliny 1962). This makes it interesting that also the lapidary of Hauksbók notes that amethyst originates from India (Foote 1982, 117).

Strøby Toftegård, like other magnate farms and central places, has thrown up several finds of raw garnets, which

were used in cloisonné decoration on refined riding gear, sword hilts, disc-on-bow brooches and other high-class jewellery items. Analyses of Swedish finds show that these garnets come from India. On Helgö in Lake Mälaren, a Buddha statue made of bronze dated to the 7th century was found, originating from the North Indian region. In the rich, Swedish graves from the Vendel period, several finds of silk remains have been made (Ljungkvist 2010).

The many finds of exotic goods originating from South-East Asia suggest that, already in the first half of the 7th century, there was some sort of goods exchange between Scandinavia and the Asian countries. Already prior to the Eastern trade connections known from the Viking Age, there was a Far-Eastern link to Scandinavia. This long-distance trade may have been facilitated through the Khazars, a nomadic, Turkic people that, at the start of the 7th century AD, became semisedentary in the northern part of the Caucasus. During the subsequent centuries, the Khazars controlled a large proportion of the trade between Europe and Asia along the Russian rivers and the Silk Road (Stenberger 1964).

From the end of the 8th century and through the Viking Age, the bead material in Scandinavia is dominated by mosaic eye beads, segmented metal-foil beads, monochrome, chopped-off, tubular glass beads and other Islamic glass beads produced in the glass workshops of the Abbasid Caliphate (Sode 2019). The caliphate was founded in 750 and, in 762, Caliph al-Mansur moves the capital of the empire to Baghdad, which from the beginning emerged as a metropole of religion, science, culture, architecture and art. From the very beginning, the best artisans and artists of the caliphate were encouraged to establish workshops in Baghdad. Glassmakers from the Syrian and Egyptian areas were among the specialised craftsmen who established workshops in and around Baghdad early on. Here, they continued their traditional production of, among other things, mosaic beads, which from then on were made from Mesopotamian plant-ash glass. Previously, mosaic glass had been an exclusive product which was fashioned in glass workshops in Egypt and the Levant where mineral-based natron glass predominated.

The short period of time between the founding of the Abbasid Caliphate and the occurrence of Islamic glass beads not only within the borders of the caliphate, from North Africa to Afghanistan, but also in Scandinavia (Callmer 1995; 2018; Sode, Feveile & Schnell 2010; Sode 2019), Central Russia (Andrea 1975) and the Far East, Thailand and Indonesia (Francis 2002; Chaisuwan 2009) shows how important a part glass beads played in early Abbasid trade. The increased production of and trade in glass beads clearly had economic, technological, social and political significance in the caliphate. Comparing the many finds of Abbasid glass beads in Scandinavia with the finely tuned chronology from the marketplace in Ribe

makes it possible to date the imported, Islamic glass beads very precisely. In the first half of the 9th century, the city of Samarra, which is located on the banks of the Tigris about 125 km north of Baghdad, becomes the new capital of the caliphate. The many archaeological finds of glass in the city show that the production of mosaic beads, glass and wall tiles made of glass was continued and developed (Schibille *et al.* 2018).

During the Iron and Viking Ages, large numbers of beads occur all across southern Scandinavia and it is clear that beads were highly valued as jewellery and accessories. Apart from the beauty of the bead itself and its function as visible proof of the wealth of status of the person wearing it, beads probably had an important purpose as protective amulets in the Late Iron Age and Early Viking Age. In Antiquity, beads played an important role as carriers of culture across borders, and, in terms of archaeology, they are an important tool for understanding the trade connections of that time. In many cases, even across great geographical distances, beads are the first evidence of contacts and trade links between different cultures.

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Vessel glass from Strøby Toftegård

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Abstract

During the excavations at Strøby Toftegård, 138 fragments of vessel glass have been found, which represent various types of drinking glasses and beakers, in most cases from separate vessels. The sherds can only be broadly dated to the Late Germanic Iron Age and the Viking Age. In contrast to vessel glass from graves, which is often found more or less intact, glass from settlements and trade centres is normally much fragmented. A large proportion of the vessel-glass material from Strøby Toftegård has been analysed in order to determine what type of glass has been used to produce the glasses. The glass analyses were done by Dr Bernard Gratuze (see Gratuze, Chapter 13). The material is, furthermore, compared with other Scandinavian finds of glass from the same period of time.

Keywords: drinking glasses, fragments of vessel glass, trade with raw-glass

The different kinds of glass sherds that stem from drinking glasses, beakers, and other mouth-blown glass vessels are often in archaeological literature described as fragments from hollow glasses. During the excavations at Strøby Toftegård, 138 vessel-glass fragments were found. The great majority of this glass emerged in connection with soil sieving, and 15 pieces were additionally recorded as stray finds. Generally, this material is very fragmented. The vessel-glass material consists of 126 fragments of glass with or without decoration, alongside 11 rim sherds and one bottom sherd.

Analyses of vessel glass

Analyses of the vessel-glass material show that this is primarily made from mineral-based natron glass, which was produced in the so-called primary glass workshops in the Syrian and Egyptian areas, and which was the most widespread type of glass in the production of Roman

drinking glasses. This Roman natron glass continued to be used in the secondary Western European glass workshops long after the fall of the Western Roman Empire. By means of glass analyses, it is possible to tell that this kind of natron glass has been melted down and recycled until sometime in the 11th century (see Gratuze, Chapter 13). Moreover, in the vessel-glass material from Strøby Toftegård, one sherd (x372) was analysed that was made from Islamic plant-ash glass. It has only been possible to date the material broadly to the Late Germanic Iron Age and the Early Viking Age, and it has, likewise, only been possible to identify a few types of glass vessels. It seems that the majority of the glass sherds come from various types of cone beakers, bell beakers, palm cups, claw beakers, globular beakers and bowls. The glasses were presumably produced in Merovingian or Frankish workshops in the Gallic area, but it cannot be excluded that individual glasses may stem from Anglo-Saxon England (Bayley 2000).

Glass colourings

Concerning the colouring of the various glass sherds, the catalogue (which can be accessed online here: <https://natmus.dk/cultsites/>) uses primarily the colour designations that were initially used in the excavation report. The thickness and transparency of the glass, its extent of decomposition, whether the glass is seen against the light or with it, the source of light itself and a range of other factors all combine to determine how we perceive colours differently. Colour designations such as turquoise, olive-green or faded green appear in the excavation report and, although they are rather diffuse, such designations occur frequently in archaeological literature about glass. In the same way, light bluish-green and faintly bluish-green are descriptions that are used in the excavation report and, although it is difficult to say what the difference between these two is, these descriptions have been retained in the catalogue. In her very thorough work on the vessel-glass material from the market site in Ribe (from the period c. 710–850), Lene Lund Feveile has divided the vessel-glass material into 16 separate colours. She was able to observe that the darker types of sherds occurred more frequently in the older layers and that the light-green and light bluish-green sherds dominated in the youngest layers. There is, moreover, a tendency towards fewer glass types and less variation in the decorative elements in the youngest phases (Feveile 2006). In her treatment of the glass from Helgö, Ulla Lund Hansen has divided the glass into 10 separate colours (Hansen 2011)

Corpus sherds without decoration

The majority of the vessel-glass material (81 pieces, c. 59% of the total material) consists of smaller, transparent, monochrome, indeterminate corpus sherds with no decoration (Fig. 11.1). The size of the sherds varies from 4 to 19 mm and with a thickness between 0.4 mm and 1.9 mm, most often around or less than 1 mm. Most of the corpus sherds have various fairly light, green tints (57 pieces, c. 41% of the material). Furthermore, five monochrome, dark, bluish-green

fragments, five almost clear ones, 13 olive-green or brown ones, as well as one blue fragment were found (together totalling c. 17% of the material).

Corpus sherds with decoration.

The remaining portion of the vessel-glass material is chiefly decorated with glass threads either applied to or fused with the vessel (Fig. 11.2). In all, 25 green corpus sherds were found, of light or dark-green hues, with thin relief threads in the same colour as the base colour of the glass, as well as three green sherds with a thicker applied thread, likewise in the same colour as the glass (together c. 20% of the vessel-glass material). Seven dark, bluish-green side sherds were found that had applied relief threads in the same colour as the glass, but with an additional thin, opaque, red thread added on top (c. 5% of the material). These fragments may stem from a claw beaker. Also, six light-green sherds were found that had opaque, yellow applied glass threads, two sherds with opaque, white threads, one sherd with opaque, red threads and a reddish-brown sherd with white threads applied onto it (together c. 7% of the material). Additionally, a brown sherd with an opaque, yellow circular decoration, a small sherd decorated with prunts and a small, dark-green sherd with an irregular applied thread, presumably from a claw beaker were found.

Glass decorated with horizontal relief threads

Glass decorated with horizontal relief threads, applied like a spiral below the rim of the glass, occur very often on cone beakers, claw beakers, globular beakers and other types of glasses from the 5th to 8th centuries (Hansen 1973; Näsman 1984; Henricson 1990; Feveile 2006, 218–219). On Snartemo beakers, cone beakers and globular beakers, the lower part of the corpus of the glass is often additionally decorated with thick, vertically wavy relief threads of the same colour as the glass. On the basis of the thread-decorated glass vessels from Ribe, Lene Lund Feveile was able to observe that glasses decorated with threads of the same colour as the glass itself were

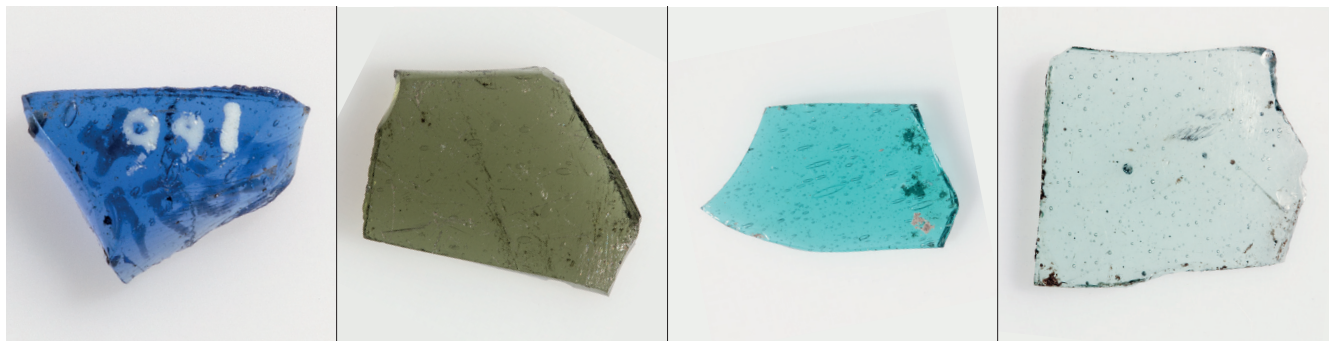


Fig. 11.1. The various types of coloured corpus sherds without decoration. Photo: Jens Olsen, Museum Southeast Denmark.

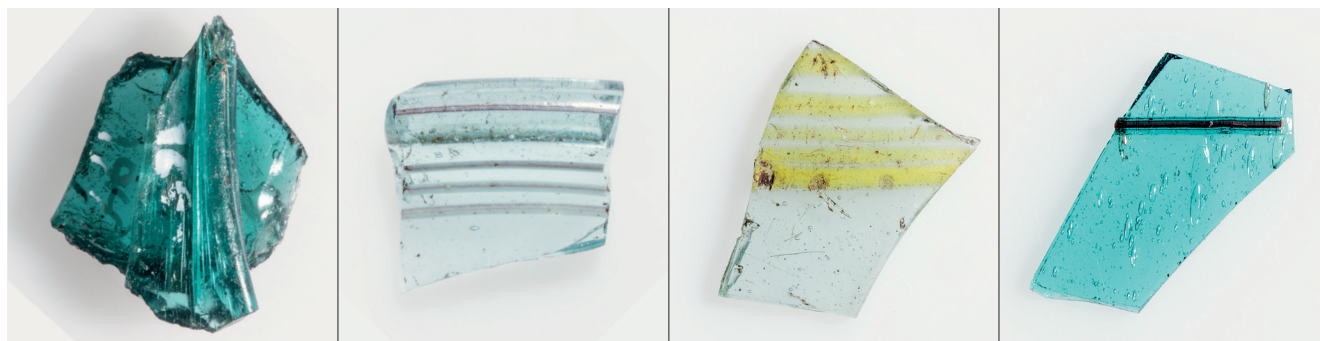


Fig. 11.2. The various types of coloured corpus sherds with relief-thread decoration. Photo: Jens Olsen, Museum Southeast Denmark.



Fig. 11.3. The reddish-brown corpus sherds with filigree decoration. Photo: Jens Olsen, Museum Southeast Denmark.

practically only found in the oldest layers, while those decorated with differently coloured threads were found mainly in the younger layers (Feveile 2006, 218–219).

Glass decorated with filigree

During soil sieving, four corpus sherds were found that are decorated with filigree rods. Glass with filigree is often referred to in archaeological literature by the misnomer *reticella* glass. One find is a small, light-brown fragment with a thin, horizontal, opaque white thread fused with the glass, and with a filigree thread of the same colour as the glass with opaque, white threads (x303). The other three fragments (x231, x264, x309) likely stem from the same glass beaker (Fig. 11.3). They are dark-brown, translucent corpus sherds with applied filigree thread of the same colour as the glass and with thin, opaque, whitish-yellow encircling threads. It is clear that the glass was produced at very high temperatures, since the opaque, whitish-yellow filigree glass threads have partially fused with the brown corpus of the glass. Interestingly, four approximately similar fragments of filigree glass were found on Helgö (Holmqvist 1964; Henricson 1990, 17), with the whitish-yellow filigree thread likewise fused with the corpus of the glass. Holmqvist interprets these sherds as stemming from a globular beaker (Holmqvist 1964, 253). In collaboration with the Swedish History Museum (*Statens Historiska Museum*) in

Stockholm, we were allowed the opportunity of analysing the glass from Helgö and compare the results with the fragments from Strøby Toftegård. The analyses show that the sherds do not stem from the same glass.

Fragments of filigree glass are found at trading sites from the Germanic Iron Age and the Viking Age, as well as at pre-Christian cult sites and magnate farms. From the Scandinavian area, three roughly intact glasses decorated with filigree threads are known. These are the very exclusive bowl with filigree decoration from the rich boat grave 6 at Valsgärde, which is dated to the end of the 7th century (Arwidsson 1942; Holmqvist 1964; Baumgartner & Krueger 1988; Andersson 2010; Hansen 2011). The Valsgärde glass bowl is made of light, yellowish-green glass, it has 46 applied filigree threads of the same colour as the glass and opaque, yellow threads encircling the bowl, all departing in a star-shaped pattern from the slightly raised bottom of the bowl. These filigree threads end around the middle of the corpus of the bowl and, above them, another four applied filigree threads encircle the bowl horizontally. Below the wide, folded rim of the bowl, two thin, opaque, yellow filigree threads fused into the glass encircle the bowl horizontally.

A globular beaker was also found at Birka (grave 649), with filigree threads in the same light-green colour as the glass and with opaque, white encircling threads. The glass is

additionally decorated with horizontal, yellow, applied spiral threads below the wide, blue applied rim. Over the nine filigree threads is a horizontal, yellow, applied spiral thread (Arwidsson 1932; Arwidsson 1984, 203; Baumgartner & Krueger 1988, 72–73). A somewhat similar globular beaker was found at Hopperstad in Norway (Hougen 1968). Both glasses, the one from Birka and the one from Hopperstad, were found in wealthy female graves dated to the end of the 9th or start of the 10th century. On the basis of the extensive sherd material from Helgö, Wilhelm Holmqvist has been able to reconstruct three separate bowls, a ball-shaped beaker and a funnel-shaped beaker with filigree decorations (Holmqvist 1964). In her work on the vessel-glass material from Ribe, Lene Lund Feveile mentions that 89 sherds with filigree decoration were found at the market site, and that they all seem to stem from different glasses (Feveile 2006, 216).

Rim sherds

In all, 11 rim sherds from different glasses were found (c. 8% of the vessel-glass material) (Fig. 11.4). It is possible to classify the rim sherds into three separate types, using the system of rim variations A–G that Lene Lund Feveile used in her categorisation of rim sherds from Ribe (Feveile 2006, 202–207).

Feveile rim type A

A square rim sherd of clear, transparent glass with blisters and a much-thickened round, hollow, inward-turning, folded rim (x236) can be categorised as rim type A. This fragment presumably comes from a palm cup, which is a small glass beaker with a round bottom and no base and a rim diameter that is often greater than the height of the glass. Palm cups occur from the end of the 7th through most of the 8th century. In connection with his survey of drinking glasses from the Rhine area, Rademacher was able to observe that the palm cup often had a hollow, folded rim, and he moreover argued that the later funnel beaker was a development of the palm cup, with the so-called elongated palm cups as a middle stage (Rademacher 1942; Feveile 2006, 209–211). In terms of its shape, the glass from Strøby Toftegård greatly resembles a glass found in boat grave 1 at the Vendel gravesite in Sweden, where two greenish-blue palm cups were found among other things (Arwidsson 1942).

Feveile rim type B

Five rim sherds can be categorised as Feveile's rim type B, which features a thickened, most often solid, rim. This is a square rim sherd of light, transparent, bluish-green glass with blisters and a thin, horizontal, applied thread of the same colour as the glass, with a thickened, slightly everted rim (x70). Moreover, a triangular rim sherd of transparent, bluish-green and crackled glass, with a thickened, slightly

everted, rounded rim, (x133). A square rim sherd of clear, transparent glass with blisters, with a thickened, rounded, inward-turned and double-folded rim (x334). A square sherd with a sturdy, rounded and double-folded rim of transparent, light bluish-green glass with a few bubbles. On the thickened rim are two horizontal, fused-in white threads, and below the rim are three white threads (x372). And also a square rim sherd of transparent, olive-green or brown glass, with a few small blisters and a thickened, folded, everted rim (x381). Glass with sturdy, thickened rims often occurs on bowls and drinking glasses from the 5th through the 8th centuries.

Feveile rim type E

Five rim sherds were found that had slightly thickened, rounded rims, which can be categorised as Feveile's rim type E. These are a triangular fragment of clear, transparent glass (x153). A pointy, triangular, transparent, faintly greenish glass with a few blisters (x385). A pentagonal, transparent, bluish-green glass with blisters and applied, encircling thread the same colour as the glass (x475). A transparent, bluish-green glass consisting of three sherds and one micro-herd that belong together, with small blisters and three thin, applied threads of the same colour as the glass (x562). Moreover, a square rim sherd of transparent, almost clear glass (x1002). Rim type E is by far the most frequent in the material from Ribe, and Lene Lund Feveile observed that a gradual change occurs, from thick, conspicuous rims towards faintly thickened rims during the period in which Ribe existed as a trading site (Feveile 2006, 202).

Bottom sherd from a claw beaker

In the glass-herd material, only one bottom sherd has been found. This is a thickened base-ring with the lower part of the vessel that originate from a dark, bluish-green claw beaker with red threads applied onto the claws (x375) (Fig. 11.5). This is the largest glass fragment found on the site.

This claw beaker is possibly of a type similar to the tall, emerald-green claw beaker that was found in the prestigious boat grave 5 at Valsgärde. This glass, too, has red threads applied onto the long, air-filled green claws, and the terminals of the claws were similarly applied onto a ring-shaped foot (Arwidsson 1942, 120; Andersson 2010, 99). The rich boat grave 6 at Valsgärde likewise yielded two tall, dark-green claw beakers with opaque, red threads on the lower part of the claws (Arwidsson 1942, 120; Henricson 1990). These large, dark-green claw beakers are all dated to the end of the 7th century (Arwidsson 1932, 252; Evison 1982).

The claw beaker is a characteristic glass type from the Merovingian Period. A range of grave finds in south-western Germany contains claw beakers, among these are several finds from along the Rhine, but also in north-western France, Belgium, the Netherlands and England (Rademacher 1942;



Fig. 11.4. Eleven different rim sherds, with inserted photograph of glass fragments according to rim types. Illustration by Author.



Fig. 11.5. Foot of a claw beaker and bluish-green sherds with thread decoration. Photo: Jens Olsen, Museum Southeast Denmark.

Evison 1982; Harden 1971; Bayley 2000). From the Scandinavian area, the earliest types, dated to the 6th century, are known from places such as Borre in Norway and Gotland. At the gravesites of Vendel and Valsgärde in Sweden, seven claw beakers of the later type have been found, all from the end of the 7th century (Andersson 2010). The early claw beakers were often low and sturdy, while the later types become taller and slimmer.

Scandinavian finds of vessel-glass sherds

The number of relatively uniform fragments and the apparent lack of fragments of Roman glass types suggest that the glass-sherd material from Strøby Toftegård must be contemporary with the period during which the settlement was in use. The majority of the sherds come from separate glasses, although there are examples of several sherds belonging to the same vessel, though it has not been possible to identify the type of glass vessel. This is the same pattern as is known from most of the other Scandinavian vessel-glass finds, among these Kaupang (Hougen 1969; Gaut 2011), Birka (Danielsson 1973, 57), Paviken (P. Lundström 1981, 97), Eketorp (Näsman 1984), Åhus (Callmer 1990, 20), Borg (Henderson & Holand 1992), Hedeby (Steppuhn 1998, 68–69) and Ribe (Feveile 2006). In Helgö, on the other hand, the glass-sherd material is generally larger and the main bulk of the vessel-glass material was found in and around house group 3 (Holmqvist 1964; Lundström 1978; Hansen 2011).

During the excavations at Dankirke, located some 6 km south of Ribe, more than 1300 pieces from Frankish glasses were found, dating from the 6th and 7th centuries. The majority of this material was highly fragmented, but there were also a few sherds of thick-walled, yellowish-green

glasses with olive cutting, as well as sherds from a claw beaker made of brown glass. Additionally, a large amount of blue, thread-decorated sherds was found that could subsequently be pieced together into an almost complete cone beaker (Hansen 1973, 26; Hansen 1989; Jensen 2004, 37).

At Dejbjerg, between Ringkøbing and Skjern, a magnate farm has been excavated, which dates from the 5th or 6th century, and around 200 fragments were found from at least 15 separate Frankish drinking glasses (Hansen 1993; 1994; Egeberg 2000). Like the later trading centre in Ribe, both Dankirke and Dejbjerg had favourable locations on the west coast of Jutland, which trading ships passed on their way from south-western Europe and England to trading sites in Scandinavia.

Until water-sieving was taken up in connection with excavating the large central sites so rich in finds from the Germanic Iron Age and the Early Viking Age, it was mainly grave finds and trading sites that yielded drinking glasses. The many sherds from drinking glasses at Late Iron Age magnate farms and pre-Christian cult sites suggest that glass was used in ceremonies at banquets and other formal occasions, but likely also in connection with religious celebrations, such as sacrifices. At Uppåkra in Scania, a fine glass beaker was found buried in the little temple or cult house. It has deep cuttings made with cased glass, and was found together with, *inter alia*, an exclusive bronze drinking cup (Stjernquist 2004; Andersson 2010).

Summary

The vessel-glass material represents various types of drinking glasses and beakers that commonly occur in both Western European and Scandinavian finds, including claw beakers, cone beakers, globular beakers and funnel beakers. However, the vast majority of the vessel-glass material consists of sherds from indeterminate glass types.

In this context, the glass material from Ribe is of interest for comparative purposes, as it – apart from being the largest coherent find of glass from the Late Germanic Iron Age and Early Viking Age – was excavated in stratigraphically well-documented layers that proved possible to date very precisely. The vessel-glass material from Ribe is concentrated around the market site and occurs mainly in the phases that also reveal the largest amounts of waste from bead making. The amount of fragmented glass from the market site is reflected in neither the contemporary graves at Rosenallé nor excavations in the surrounding areas. This picture also emerges at, for instance, Paviken, Helgö, Åhus and Kaupang. In Bornholm, where a number of rich graves from the Late Germanic Iron Age have been excavated, not a single grave has yielded glass beakers from this period. It must be noted, though, that during the period when Ribe was an active market site, c. 710–850, not a single intact glass beaker is known from Scandinavia, including Hedeby.

The exclusive, filigree-decorated glass bowl that was found together with two claw beakers in the rich boat grave 6 at Valsgärde, north of Uppsala in Sweden, is dated to the end of the 7th century (Henricson 1990). Similarly, the other claw beakers found at Gamla Uppsala and Valsgärde are dated to the mid-to-late 7th century. At Birka, several graves contained glass finds, of which 17 are intact or almost intact glass beakers. These graves are all dated to the latter half of the 9th or the 10th century (Arbman 1937). A grave find from Hedeby also contained a glass funnel beaker dated to around AD 900 (Steppuhn 1998, 59).

As source material, the only thing the vessel-glass material reveals is that there was some form of trade in glass, but not whether the glass was imported to Scandinavia as intact drinking glasses or whether it was imported alongside lumps of raw glass and tesserae, as raw material for a local production of glass beads (Sode 2002). The glass-sherd material may have arisen in various ways, either as directly imported scrap glass, or it may represent whole drinking glasses that broke on the site.

Looking at the overall picture that emerges of the vessel-glass material from Scandinavia and comparing it with the other archaeological finds, it seems likely that perhaps a very large proportion of the glass-sherd material has been imported alongside raw glass for use in glass-bead production. This, however, does not in any way exclude that whole drinking glasses and bowls also existed during the period c. 700–850. These glasses could then, when they broke, be gathered and kept for their material value. Such pieces of glass could be used for trading or brought along when visiting the annual market where they could be part of the transaction when purchasing new glass beads.

In this connection, it is interesting that about 68% of the vessel-glass fragments at Strøby Toftegård, were found in or around House 2. Within this limited area, also glass beads were found together with bead-production waste, glass slags, burnt clay with melted green glass and other objects indicating that this area may have been the place of a local glass-bead workshop.

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Window glass from Strøby Toftegård

Torben Sode

Abstract

At Strøby Toftegård, four fragments of window glass were found, or flat glass as it is often called in archaeological literature. Similar finds of window glass made from early European potash glass are known also from other Viking Age magnate farms and trading sites, and window glass also occurs in grave finds. Windows with glass panes are known from Roman buildings already in the 1st century and likewise from early Christian churches and monasteries. The many finds of window glass from the Early Viking Age, at both trading sites and elite buildings, suggest that, in the North, windows with glass panes existed at royal residences and pre-Christian temples, in the same way as is known from Carolingian and Anglo-Saxon buildings (Sode et al. 2023).

Keywords: Early window glass in Scandinavia, Viking Age glass panes, early northern European potash glass, pre-Christian cult sites

At Strøby Toftegård, three small sherds of window glass were found in connection with soil sieving (x139; x154; x1243), while a fourth find (x1245), consisting of a collection of four small sherds that belong together, was found when sieving soil from ditch A16, 2013–A20, 2013 (Fig. 12.1). In this fourth find, the largest and one of the smaller pieces preserve the original thickened and rounded edge. The window glass from all four finds was produced using the so-called cylinder-glass technique and has green tints. Analyses of the window glass shows that this is made from early European potash glass made of wood ash. This kind of glass belongs to the wide category of early wood-ash glass defined by Wedepohl and is mainly characterised by using a wood ash containing more lime than potash ($3.25 < \text{CaO}/\text{K}_2\text{O} < 20.7$). These glasses can be considered as precursors of HLLA (High Lime Low Alkali) glasses, which become the standard window glass composition from the 14th century on. According to the value of their $\text{CaO}/\text{K}_2\text{O}$ ratio and their soda contents, the four pieces of window glass from Strøby Toftegård can be further subdivided into two subgroups. One of the windowpanes is characterised by

a high $\text{CaO}/\text{K}_2\text{O}$ ratio (>15) and the three others by a low $\text{CaO}/\text{K}_2\text{O}$ ratio (<12) which is associated with a positive correlation between soda and potash. However, according to trace-element patterns, these different compositions seem to characterise mainly the compositional variability of wood-ash lime glasses that probably originate from the same production area in northern or north-western Europe (Sode *et al.* forthcoming).

Among the 53 analysed glass remains (29 beads, 20 vessel fragments and four windowpanes) from Strøby Toftegård, the glass windows are the only wood-ash lime glasses that have been identified (see Gratuze, Chapter 13). All the other glasses are either soda-lime glasses (made using natron, soda from mineral deposits or soda plant ashes), early wood-ash glass (potash-lime glass) or high-alumina mixed soda-potash glasses.

Early flat glass sheet glass in Scandinavia

Besides the four pieces of window glass found at Strøby Toftegård, five fragments of early wood-ash lime-glass

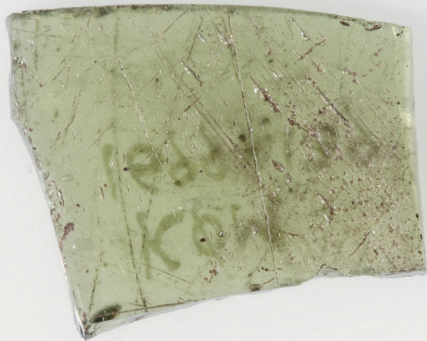
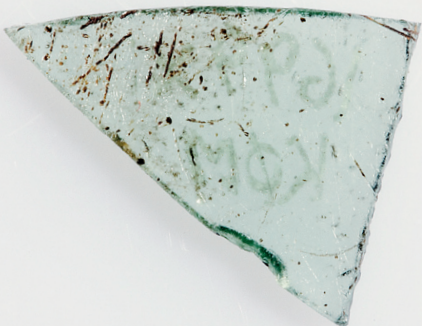
	KØM 01699x139 Light faded green, transparent, square window glass, scratched surface. Height: 19.6 mm, width: 11.8 mm, thickness: 1.0 mm. Found in soil-sieving trench 2754.
	KØM 01699x154 Light, green, transparent, triangular window glass. Height: 11.6 mm, width: 8.6 mm, thickness: 0.8 mm. Found in soil-sieving trench 2054.
	KØM 01699x1243 Faintly light-green window glass, no visible blisters. Marks from glass pliers on one of the short sides. Height: 17.1 mm, width: 9.2 mm, thickness: 2.2 mm. Found in soil-sieving trench A9, Farm 1.
	KØM 01699x1245 Four fragments of light-green window glass. The largest and one of the smaller pieces have thickened, rounded rims. Largest piece: Height: 19.8 mm, width: 17.2 mm, body thickness: 1.2 mm, rim thickness 2.0 mm. Found when sieving a ditch, A16, 2013-A20, 2013.

Fig. 12.1. Fragments of window glass. Photo: Jens Olsen, Museum Southeast Denmark.

panes have been identified at the Danish sites of Tissø in the western part of Zealand, as well as nearly 20 fragments at Sorte Muld in Bornholm. Also, at the Swedish sites of Birka and Uppåkra, fragments of wood-ash lime-glass windows have been excavated.

At the Viking Age trading site at Hedeby, 15 brown and 10 light-green fragments of window glass were found during the excavations in the 1990s (Stepphun 1998), and there is a sizeable, unpublished number of such fragments found during earlier excavations of the site. During the excavations at Posthustorvet in Ribe, 17 sherds of glass panes were found, dating to the Early Viking Age. At the early excavations at Kaupang in Norway, four fragments of glass panes were found (Hougen 1969) and from the latest excavations, 19 pieces of window glass emerged, four of which were found in undisturbed Viking Age layers (Gaut 2011). In Birka, 81 sherds of window glass were found, a large proportion of which were unearthed in connection with excavations of the harbour area (Danielsson 1973). Likewise, in Birka, fragments of window glass were found in three graves, due to which Arbman has suggested that this glass may have functioned as a sort of amulet (Arbman 1937).

Early window glass

Already at the start of the 1st century, glass panes were produced in Roman glass workshops. These windowpanes, made from Roman natron glass, are known in Italy from places like Rome, Pompeii and Herculaneum. Windows with glass panes are known from public buildings, as well as upper-class residences, greenhouses and Roman baths (*thermae*) (Whitehouse 2001). A number of finds in early Roman buildings with glassed windows are also known from Switzerland, France, Germany and England (Harden 1961). Some glass panes were mounted in window frames made of wood or metal that could be opened so that it was possible to ventilate the buildings.

The earliest Roman window glasses were most likely made by pouring glowing hot, molten glass onto a flat, polished marble table. Following this, the glass was drawn and shaped using various pliers and iron tools – often, marks left by the tools are visible along the edges and in the corners of these so-called cast window glasses. This type of window glass is always shiny on the top side and matte on the bottom side, which has touched the marble surface. In the mid-1st century at the latest, flat glass has been produced using the cylinder-glass technique. During this process, the glassmaker blows the glass into a cylindrical shape which is subsequently cut open and unfolded onto a tabletop. The method results in a flat piece of glass characterised by having a straight, slightly rounded edge, with elongated, parallel blisters in the glass. This cylinder-glass too, is shiny on one side and matte on the side facing the flat tabletop. At the excavations of Pompeii and Herculaneum,

a number of windowpanes were found that had been made using the cylinder technique, which was the most commonly used method for producing window glass in ancient and medieval Europe. The production of glass panes using the cylinder-glass method continued right up until the late 19th century. In the 1950s, the English archaeologist and glass specialist Donald B. Harden surveyed and analysed a wide range of Roman window glasses that were described as cast glass, but which he believed to be made by the cylinder glass method (Harden 1961).

A third type of window glass, called crown glass or moon glass, was produced by blowing a larger or small bubble of glass which was subsequently flattened by spinning out the glass into a flat, round disc, which, after cooling, was cut into smaller glass panes. This method is known in the Eastern Mediterranean area from the 1st century when smaller, flat and round tinted windowpanes were produced, with a diameter of between 8 and 25 cm, which were mounted in stucco windows. This type of crown glass is likewise known from early finds in Italy, France, Germany and England. However, it is not until the Early European Middle Ages that window glass of this type becomes common across Western Europe, most often in connection with the production of coloured glass panes. At the end of the Middle Ages, it becomes possible to produce crown glass with a diameter approaching one and a half metre. Crown glass is characterised by having a curved, slightly thickened, rounded edge, as well as having blisters and impurities concentrically placed in the glass. In the middle, there is a thicker area with a break-off pontil mark, popularly called a bull's eye or navel (Benzon 1981, 31). The surface of crown-glass panes is always shiny and glossy on both sides.

Church windows

Church windows are known from the earliest Christian churches from the start of the 4th century where churches were erected in, among other places, Ravenna and Rome. In 540, Ravenna was conquered by the Eastern Roman Emperor Justinian I (482–565), and the direct relations to the Christian Byzantine empire lasted for a number of centuries, strongly influenced by Eastern Roman glass art and architecture. In connection with the rebuilding of the dome of the Hagia Sophia cathedral in Constantinople, which had collapsed during an earthquake in 558, Emperor Justinian had a new dome constructed with 40 large windows, placed all the way around the circle of the dome, allowing the sunlight to be reflected in the golden glass mosaics of the church (Trowbridge 1930, 188–189).

A 7th-century glass workshop linked to the Santa Maria cathedral, located on the island of Torcello in the northern part of the Venetian Lagoon, has been excavated, and this was a place that produced window glass and stained-glass mosaics (Leciejewicz, Tabaczynska & Tabaczynski 1977).

Likewise, at the investigations of the monastery of San Vincenzo al Volturno in Italy, glass workshops linked to the monastery were excavated and yielded, among other things, a glass oven, fragments of a crucible and various types of production waste. In the workshop area, a glazier's workshop was also located, containing green window glass of various hues that was produced using the cylinder-glass method, cut blue panes of crown glass and H-shaped grids made of lead. The workshops can be followed through three phases from the early 9th until the 11th century (Moreland 1985; Balzer 1999).

In England, window glass is found in connection with excavations of both Romanesque and Anglo-Saxon buildings (West 1931). Anglo-Saxon window glasses are known from churches, monasteries and cathedrals, just like they were used by kings and magnates in castles, mansions and other profane buildings. The earliest archaeological finds of glass furnaces from Anglo-Saxon England come from the end of the 7th century and can be linked to Bishop Benedict, who erected a stone church with a monastery in Wearmouth, Northumbria – one of the Anglo-Saxon kingdoms of northern England in the Middle Ages. Contemporary written sources say that, in 675, Benedict commissions French glassmakers to produce windows to both the church, the cloister and the dining hall of the monastery (Trowbridge, 1930; Harden 1961, 39). In 688, the West-Saxon King Ine founded a monastery in Glastonbury. Here, the remains of four glass furnaces have been excavated where window glass was produced using the cylinder technique (Bayley 2000; Evison 2000, 190–191; Willmott & Welham 2013).

Northern European potash glass

Sometime at the end of the 8th century, a significant change occurs in Western European glass technology. It appears to be the increased need for window glass for churches and monasteries that results in the development and production of a new type of glass using potash (kalium) in the form of wood ash as flux in the glass production (Wedepohl 2001; 2003; 2008). This early European potash glass was very uneven and unstable, and it comes in different types of potash glass according to what species of trees were used, and where in Europe it was made. There are also analyses of window glass that has been made by melting together old Roman natron glass and early European potash glass. Such mixed glass is known from, for instance, the monastery in Fulda, which was founded in 744, and from the Carolingian monastery in Lorsch and, indeed, it has been found at the Viking Age trading site of Hedeby (Kronz *et al.* 2015).

Most of the medieval church windows from northern Europe are made of potash glass. There are, however, still coloured window glasses made from reused Roman natron glass. The monk Theophilus Presbyter writes in his *De*

Diversis Artibus, from around 1100, how to make glass from beech-wood ash, but also how blue glass can be made from old, Roman glass that you melt down. He moreover writes how mosaic windowpanes can be made using lead grids (Theophilus 1979).

The earliest written records of glass windows in Scandinavia come from the sagas, with *Knytlinga saga* (the Saga of Canute's Descendants) mentioning that, in 1086, there were glass windows in Saint Alban's Church in Odense (Nyrop 1879, 435–436). Likewise, *Páls saga byskups* (the Saga of Bishop Páll) notes how Bishop Absalon gives Páll two glass windows for the church at Skálholt in Iceland, when he is ordained in 1195. This shows that by the 12th century, there were glass windows in Denmark (Nyrop 1879, 435–436; Skotz-Hansen 1949, 222). At Lilleborg in Bornholm, which existed as a royal castle from around 1190 and is thought to have been destroyed in 1259, fragments of glass panes have been found, just like at other early royal castles.

Discussion

Recent archaeological investigations of pre-Christian cult sites show that there were often religious cult buildings or temples at such sites. Fragments of window glass have been found at several elite settlements, and these residences, moreover, had whitewashed walls, which gave them a monumental appearance (Bican 2018; Holst & Henriksen 2015). The presence of window glass at pre-Christian cult sites, at Viking Age trading sites and in grave finds seems to draw an exciting picture. Most probably window glass was part of cult houses and royal residences already in pre-Christian Scandinavia, as was the case in contemporary Frankish and Anglo-Saxon churches and palaces. The finds of early window glass from southern Scandinavia seem to be too many to be just coincidental.

An interesting question is why this early European potash glass is found at pre-Christian cult sites, at trading sites and in Viking Age graves. It has previously been assumed that the earliest glass windows in Scandinavia arrive during the Middle Ages and the Renaissance in connection with churches and in buildings belonging to royal and noble people. The many finds of early northern European potash glass must thus be linked to early elite settlements and cult buildings. Although glass windows were not common, this does not mean that they did not exist at Viking Age royal residences and temples. A range of other archaeological finds show that magnates and kings in southern Scandinavia were heavily inspired and influenced by the fine crafts and art from Frankish and Anglo-Saxon areas. Does the general understanding of the presence of excavated window glass from pre-Christian finds in Scandinavia arise from a misinterpretation of the early flat glass because those doing the interpretation have decided in advance that this must be fragments more recent window glass?

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Analysis of glass sherds, glass beads and glass slag from Strøby Toftegård

Bernard Gratuze

Abstract

Important changes in glass manufacturing processes occurred in the Mediterranean world from the end of the 8th century. This phenomenon stems directly from a progressive decline of the production of raw natron-based glass in the Near East. From the 9th century onward, in the Eastern Mediterranean and Mesopotamia, soda-lime glass made from halophytic plant ash becomes the prevailing type of glass before becoming, by the 12th century, the dominant glass type throughout the Mediterranean. In recent years, the increasing number of analyses carried out on Western European glass dated from this transition period have highlighted the presence of a great variety of different compositions. This diversity seems to reflect both the recycling of ancient natron glass when available and the use of local raw materials to produce new types of glass (based mainly on the use of a flux obtained from ashes from forest plants), which enabled glassmakers to cope with the lack of natron glass (both raw and recycled). The aim of this study is to expand this research to include the northern part of Europe, more specifically Scandinavia, where this aspect has hitherto been largely overlooked. Our aim is to answer the following questions: What chemical glass types are found at Strøby Toftegård? What insights are provided by the chemical composition of these types in terms of glass making, recycling processes and changes in trade networks between the 8th and 10th centuries? Does the situation in Scandinavia differ from that in the rest of Western Europe?

Keywords: Scandinavia, glass objects, glass recycling, Middle Ages, chemical analysis, chemical glass groups, natron-based soda-lime glass, plant-ash based soda-lime glass, early wood-ash based potash-lime glass

The analysis of the glass objects from Strøby Toftegård (29 beads, 20 vessel fragments, 2 pieces of glass waste and 5 pieces of slag, Appendices 13.1–13.4) was conducted at the Centre Ernest-Babelon of the IRAMAT (Orléans, France), using Laser Ablation-Inductively Coupled Plasma-Mass Spectrometry (LA-ICP-MS). It consists of a Resonetic Resolution M50 laser probe working at 193 nm coupled with a Thermo Fisher Scientific ELEMENT XR mass spectrometer.

LA-ICP-MS analysis

LA-ICP-MS allows a nearly non-destructive analysis, invisible to the naked eye, of the glass objects. The LA-ICP-MS analysis operates as follows. The object placed in the ablation cell is sampled by the laser beam. The diameter of the ablation crater ranges from 60 µm to 100 µm, with a depth of around 250 µm. An argon and helium gas flow carries the ablated aerosol to the injector inlet of the plasma torch, where the matter is dissociated, atomised and ionised. The ions are

then injected into the vacuum chamber of a high-resolution system, which filters the ions depending upon their mass-to-charge ratio. The ions are then collected by a channel electron multiplier or a faraday cup. The isotope ^{28}Si is used as an internal standard. The concentration of 58 different chemical elements is determined for each selected sample. Calibration was done by using NIST610 and Corning B, C and D glass reference material, as well as a home-made glass reference material for chlorine determination (Gratuze 2013; 2014). The detection limits range from 0.1 to 0.01% for major chemical elements and from 0.05 to 0.5 ppm for others. The composition is calculated from the averaged signal obtained from a single ablation of the sample. However, the evolution of the shape of the signal is continuously observed during analysis. Where irregularities signifying the presence of inclusions or heterogeneous areas are observed, results are either kept for a future correction or they are discarded and a new ablation site is selected. In order to validate the obtained concentration results, glass reference standard materials Corning A and NIST612 are regularly analysed as unknown samples throughout the whole analytical sequence. The obtained values are given in Appendix 13.4, which can be accessed online here: <https://natmus.dk/cultsites/>.

Glass objects of the Late Antiquity and Early Middle Ages

In Western Europe, most glass objects that circulated during Antiquity and the Early Middle Ages (1st century BC–9th century AD) were made from a soda-lime glass produced in the Near East. This glass was produced from a calcareous sand with very little aluminium content (typically from 2 to 3%, and rarely > 4%; Schibille 2011; Rehren *et al.* 2015) and natron, a relatively pure, hydrated sodium carbonate (Shortland *et al.* 2006) that was probably collected in dry Egyptian lakes (located in the Wadi Natrum region). Several centres of production of raw glass (called ‘primary workshops’) located between Lebanon and Egypt were probably active during this period (Freestone *et al.* 2000; 2008; Rehren *et al.* 2010). In Western Europe, the production centres of vessels and beads (‘secondary workshops’) used blocks of raw glass from these primary workshops or reused glass (cullet, tesserae). The various archaeometric studies carried out on ancient and medieval glass objects have enabled the identification of several compositional subgroups (Freestone *et al.* 2000; Foy *et al.* 2003; Rehren & Freestone 2015). These subgroups are related to the geographic origins of the primary workshops or to particular combinations of elements. Overall, the material is nonetheless characterised by a relative homogeneity in its composition (Picon & Vichy 2003; Foy *et al.* 2003; Foy & Picon 2005).

Within this period, a second type of soda-lime glass was occasionally produced from a soda extracted from the ashes

of halophyte plants, such as *Salicornia sp.* or *Salsola sp.* These kinds of glass are distinguished from the preceding ones by their higher contents of potash (K_2O), magnesia (MgO) and phosphoric oxide (P_2O_5). Two families of plant-ash based soda-lime glass were identified. The first, found mainly among mosaic glasses, is characterised by similar contents of magnesia and potash. It is frequently found among red and green glasses of Antiquity (Nenna & Gratuze 2009). The second type is characterised by magnesia levels that exceed those of potash. During Antiquity and the Early Middle Ages, these glasses were probably produced inland in Mesopotamia. The studies carried out on Sassanian plant-ash based soda-lime glasses from Veh Ardasir (Iraq) provide evidence for the existence of subgroups that are distinguished by different magnesia/potash ratios (Mirti *et al.* 2009; Ganio *et al.* 2013).

Most Late Antique and Early Medieval glass objects are therefore typically produced from the different soda-lime natron-based glasses, and exceptionally from soda-lime plant-ash based glasses originating from the Levantine and Egyptian coastal areas. These glasses differ, however, from those of the preceding periods in terms of their colouring and opacifying techniques. From the 4th and 5th centuries, and spreading from the east towards the Western Mediterranean, tin became increasingly important as the principal colouring and opacifying agent for yellow glass (lead stannate replaced lead antimonate) and white glass (tin oxide replaced calcium antimonate) (Tite *et al.* 2008). This development did not affect the colour of white glass, but in yellow glass the dominant yellow-orange colour changed to a lemon yellow. Whereas there seems to have been a technological innovation in relation to white glass, recent work by Marco Verità on the yellow tesserae of the Gorga collection (Italy) shows that opacification with tin yellow had been used since the 2nd century AD (Verità *et al.* 2013). Analyses carried out on the Merovingian glass beads originating from the necropolises at Saint-Laurent-des-Hommes ‘Belou Nord’ (Dordogne) (Poulain *et al.* 2013) and at Bossut-Gottechain (Belgium) (Mathis *et al.* forthcoming) provides evidence for the appearance of new recipes also for the production of black glass. This appears to have been obtained by the addition of high quantities of iron and lead oxides (in variable proportions) to natron glass probably in the process of recycling used natron glass, that probably originated from recycling.

In a recent research project on glass from the Viking Age (Sode *et al.* 2017), nearly 300 samples of raw glass, mosaic tesserae, vessel fragments, waste from bead production and finished beads were analysed. Among these, some opaque red and orange barrel-shaped beads were found to have compositions which differ completely from the above-mentioned usual Mediterranean compositions. One of them, a high-alumina mixed-alkali glass, seems to be closely related to so-called Indo-Pacific glass, known to

have been produced in South and Southeast Asia and identified recently in Western European Merovingian's graves in the form of small, drawn, monochrome beads (Pion & Gratuze 2016). However, this glass shows a trace element signature which is different from any other known glass types. The second one, a low-alumina mixed-alkali glass, seems to define a new category of glass.

Whereas the Roman production system is still in effect during the first part of the Early Middle Ages, an increase of soda glass recycling is observed from the 7th century onwards (Freestone 2015; Mirti *et al.* 2001). This phenomenon stems directly from a progressive decline of raw glass imported from the Near East. New glass recipes, based on a vegetal fusing agent, are at this point in time about to be adopted both in the East and West. During the 9th century, in the Eastern Mediterranean and Mesopotamia, soda-lime glass made from halophytic plant ash becomes the prevailing type of glass (Whitehouse 2002), and this subsequently becomes the predominant one all around the Mediterranean at the end of the 12th century. In Western and continental Europe, potash-lime glass (also referred to as wood-ash glass) made from forest-plant ash develops from the end of the 8th century (Van Wersch *et al.* 2015; Velde 2009; Wedepohl *et al.* 1997). The main flux is no longer soda but a variable mix of potash and lime rich in magnesia, phosphorus and manganese (Wedepohl & Simon 2010). These kinds of glass become the prevailing ones in continental Europe at the end of the 10th century. We must also point out the existence of another kind of glass where the calco-alkaline flux is partly or totally replaced by lead oxide (Brill 1999; Duckworth *et al.* 2014; Wedepohl & Baumann 1997).

Thus, starting in the 9th century, plant-ash based soda-lime glasses progressively replaced natron-based soda-lime glasses in the Mediterranean zone while, during the same period, potash-lime (wood-ash based) glasses made using the ashes of forest plants appeared in Western Europe (Velde 2013; Velde & Motteau 2013; Wedepohl & Simon 2010).

Results

By using a ternary diagram ($\text{Na}_2\text{O}-\text{K}_2\text{O}+\text{MgO}-\text{CaO}$) and various binary diagrams ($\text{Na}_2\text{O}-\text{K}_2\text{O}$, $\text{MgO}-\text{K}_2\text{O}$ and $\text{Al}_2\text{O}_3-\text{CaO}$), the results obtained (Appendices 13.2, 13.3 and 13.4) enable the classification of the glass objects from Toftegård (29 beads and 20 vessels) into four main groups (Figs 13.1 to 13.4): soda-lime glasses, which are made either with natron (soda from mineral deposits) or with soda-rich plant ashes (these two groups are described above), potash-lime (wood-ash) glasses and high-alumina mixed soda-potash glasses. Some of the studied glasses moreover result from the mixing of these different types of glass. Reduced compositions (calculated on the basis of Na_2O , MgO , Al_2O_3 , SiO_2 , K_2O , CaO , Cl and P_2O_5 contents) are used for the binary diagrams

in order to limit the influence of colourants and opacifiers, which are sometimes present in high concentrations.

According to the typology of the objects (vessels or beads), we observe that all the 20 glass vessels belong to the natron-based soda-lime group while the 29 beads are spread out across the four different compositional groups. We will thus discuss the results obtained for the vessels separately from those linked to the beads.

Composition of the glass vessels from Strøby Toftegård

All the studied glass vessels from Strøby Toftegård have a typically Roman glass composition. The objects are transparent glasses, amber (7), colourless (5) and green (8), decorated with stripes or dots of red, white and yellow opaque glasses.

Green and red glasses are coloured with copper, present in the form of metallic copper crystals in the red glasses and Cu^{2+} ions in the green glasses. All these glasses exhibit high contents of lead, antimony and, to a lesser extent, tin (Figs 13.5 and 13.6). The ratio between copper and tin is fairly constant and shows the use of bronze scraps, containing from 8 to 10% tin, as colourant. The green and red glasses have very similar compositions, and it is highly probable that the same type of glass was used to make both colours, the green glass being produced in an oxidising atmosphere and the red glass in a reducing atmosphere.

Although tin is the main opacifier used in opaque glasses, in the form of tin oxide in white glasses and lead stannate in yellow glasses, antimony is systematically present in all the opaque glass and prevails against tin in the yellow glass of Toftegård 303. The white glass of Toftegård 303 moreover has a high content of antimony. The high antimony content of the tin opacifiers is probably due to the recycling of ancient, opaque white and yellow glasses (Fig. 13.6).

Amber glasses are coloured with iron sulphide and were probably made in a reducing atmosphere. Their contents of manganese, copper, tin, lead and antimony are fairly high and can be considered as evidence of glass recycling (Figs 13.5 to 13.7). Likewise, but with the exception of Toftegård 372, which exhibits the typical composition of Levantine 1 glasses, all the other colourless glasses have similarly high contents of these elements. Their presence highlights the importance of glass recycling for glass vessel production during the Early Middle Ages. Among all the amber and colourless glass vessels from Strøby Toftegård, Toftegård 372 is the only piece which does not show evidence of intense glass recycling.

Composition of the glass beads from Strøby Toftegård

As mentioned above, the composition of the 29 glass beads from Strøby Toftegård allows for dividing them into four

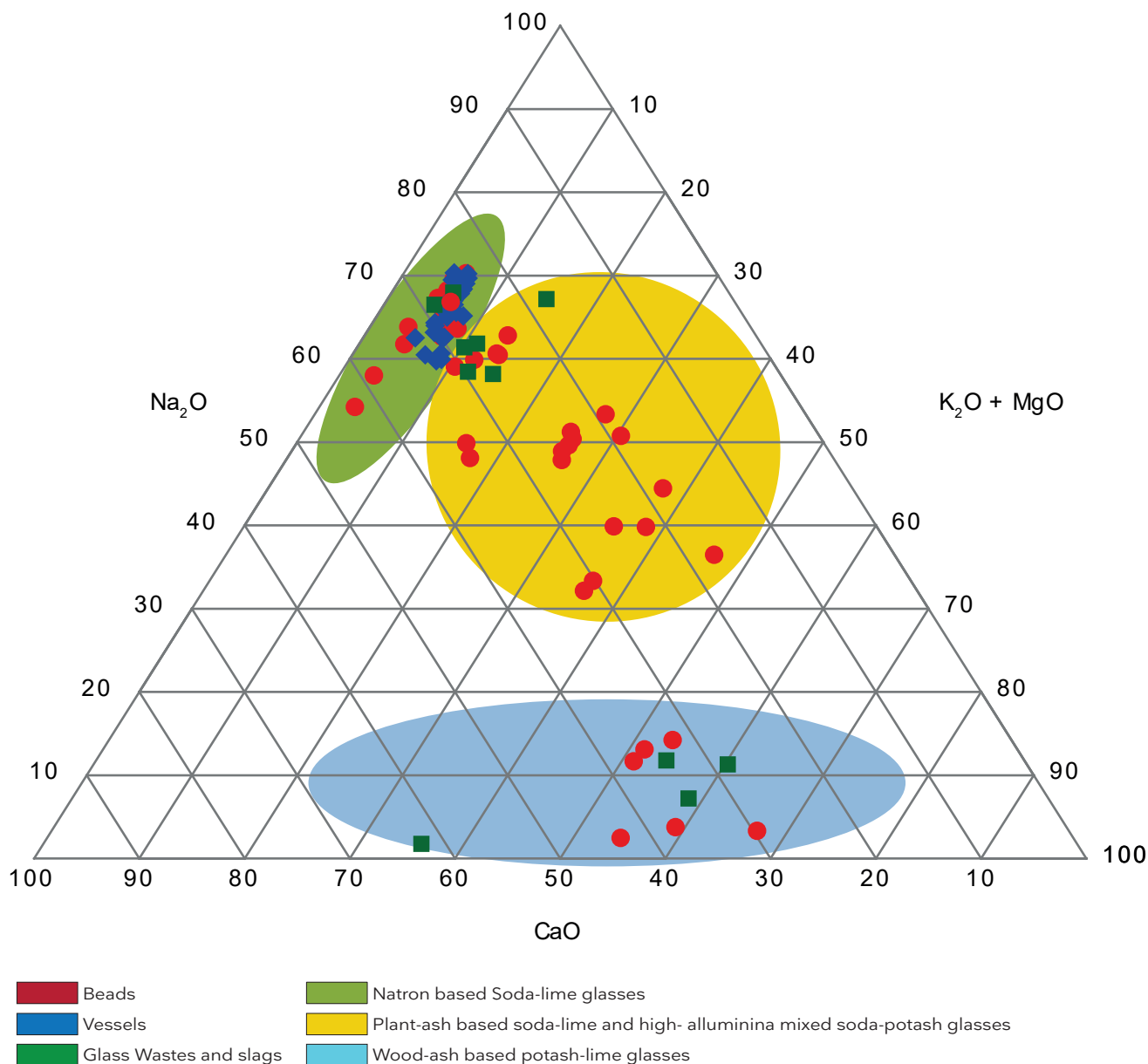


Fig. 13.1. Ternary diagram $\text{Na}_2\text{O}-\text{K}_2\text{O}+\text{MgO}-\text{CaO}$ showing the distinction between natron-based soda-lime, plant-ash based soda lime, mixed soda-potash and wood-ash based potash-lime or glasses.

main compositional groups (Appendix 13.1), and among these some subgroups can be identified. It stands out that some of the beads are made from several different types of glass: for example, the yellow glass of Toftegård 171 is a natron-based soda-lime glass, while the white and black glasses used for decoration are plant-ash based soda-lime glasses, the black glass body of the bead Toftegård 295 is a potash-lime (wood-ash based) glass, while the yellow glass used to decorate the bead is a plant-ash based soda-lime glass, and the red glass used to decorate the bead Toftegård 128 was obtained by mixing natron-based soda-lime glass

and high-alumina mixed soda-potash glass. Each glass group will be discussed separately.

Natron-based soda-lime glass beads

As expected according to the different studies of glass from the Early Middle Ages, we find most of the analysed beads in this group (17 out of 29).

Due to the presence of polychrome glass beads, 24 analyses have been carried out, and among these we find one green glass coloured with copper, three colourless-yellowish-bluish glasses, two red glasses, two blue glasses

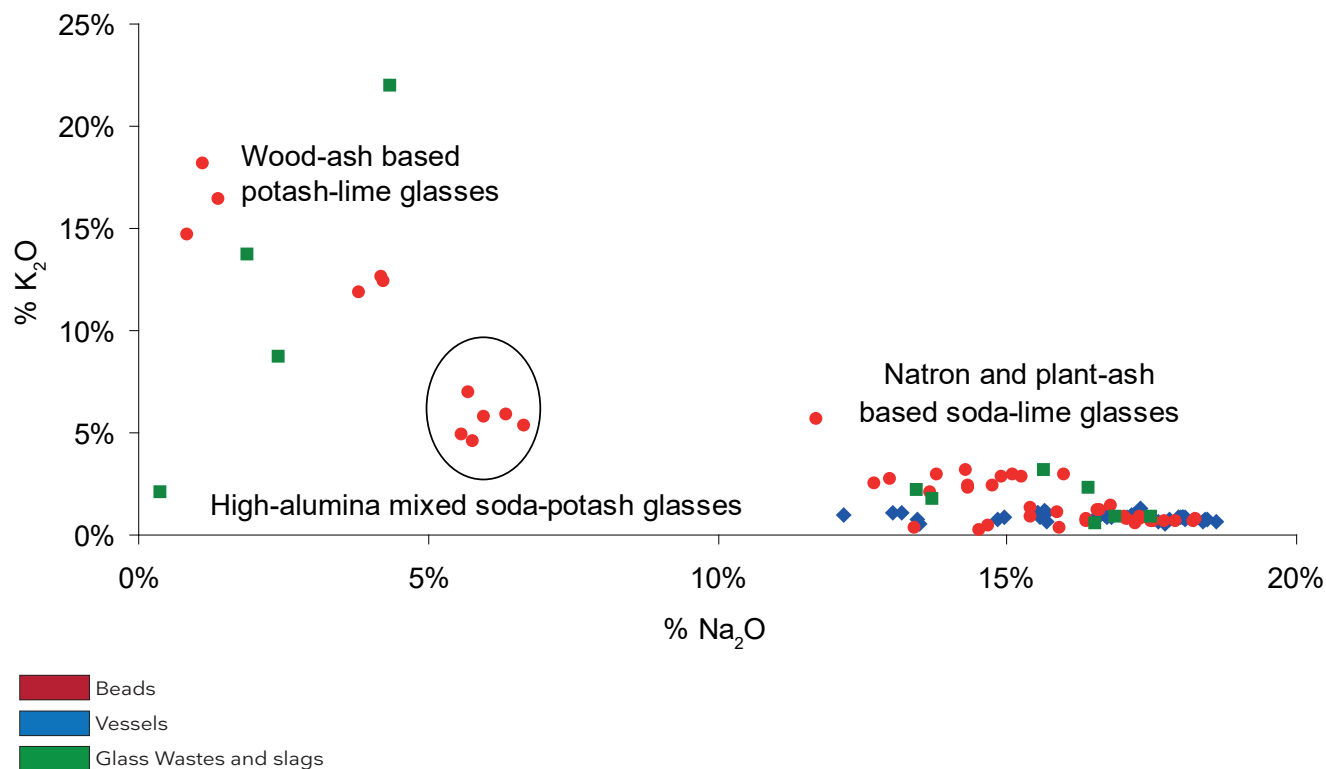


Fig. 13.2. Binary diagram $\text{Na}_2\text{O}-\text{K}_2\text{O}$ showing the distinction between soda-lime, potash-lime and mixed soda-potash glasses.

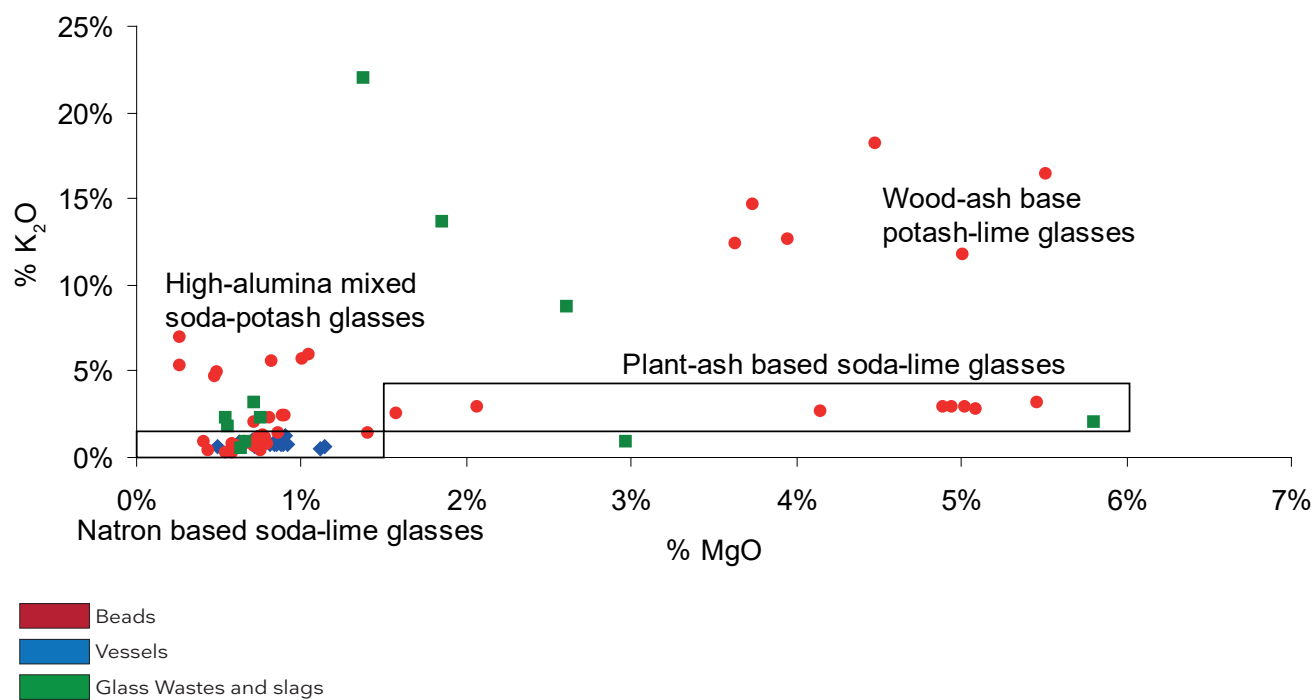


Fig. 13.3. Binary diagram $\text{MgO}-\text{K}_2\text{O}$ showing the distinction between natron-based soda-lime glass and other glasses.

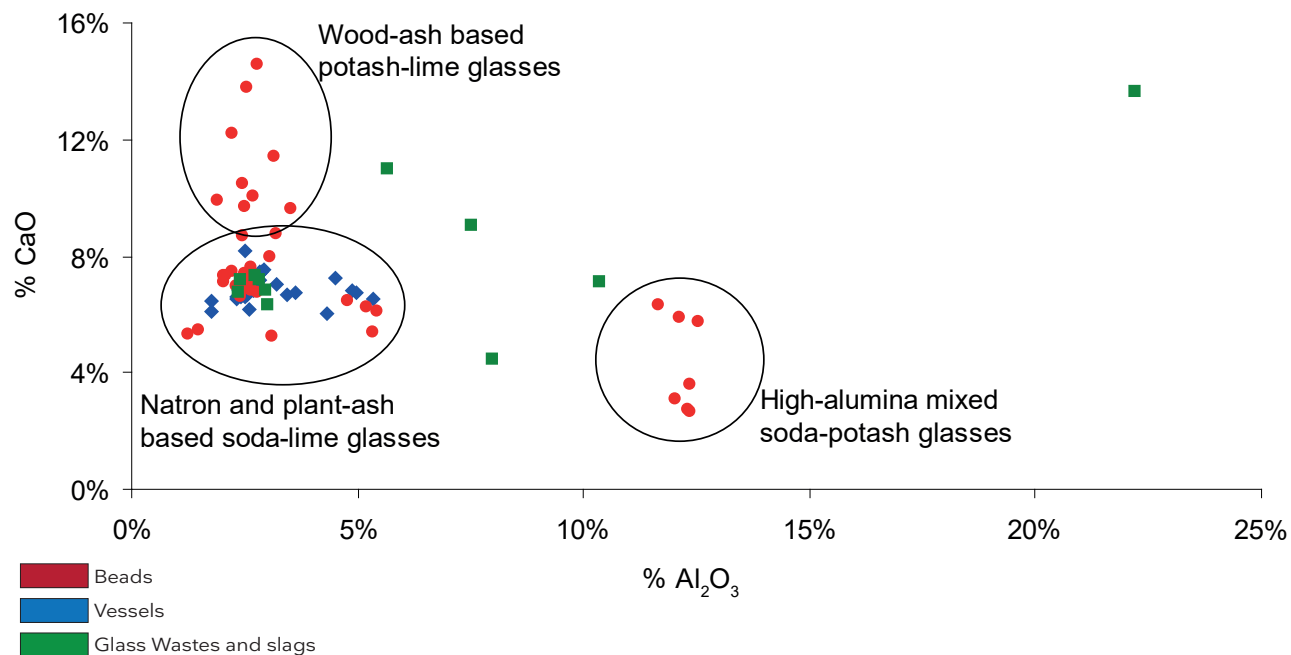


Fig. 13.4. Binary diagram $\text{CaO-Al}_2\text{O}_3$ showing the distinction between high-alumina glass and other glasses.

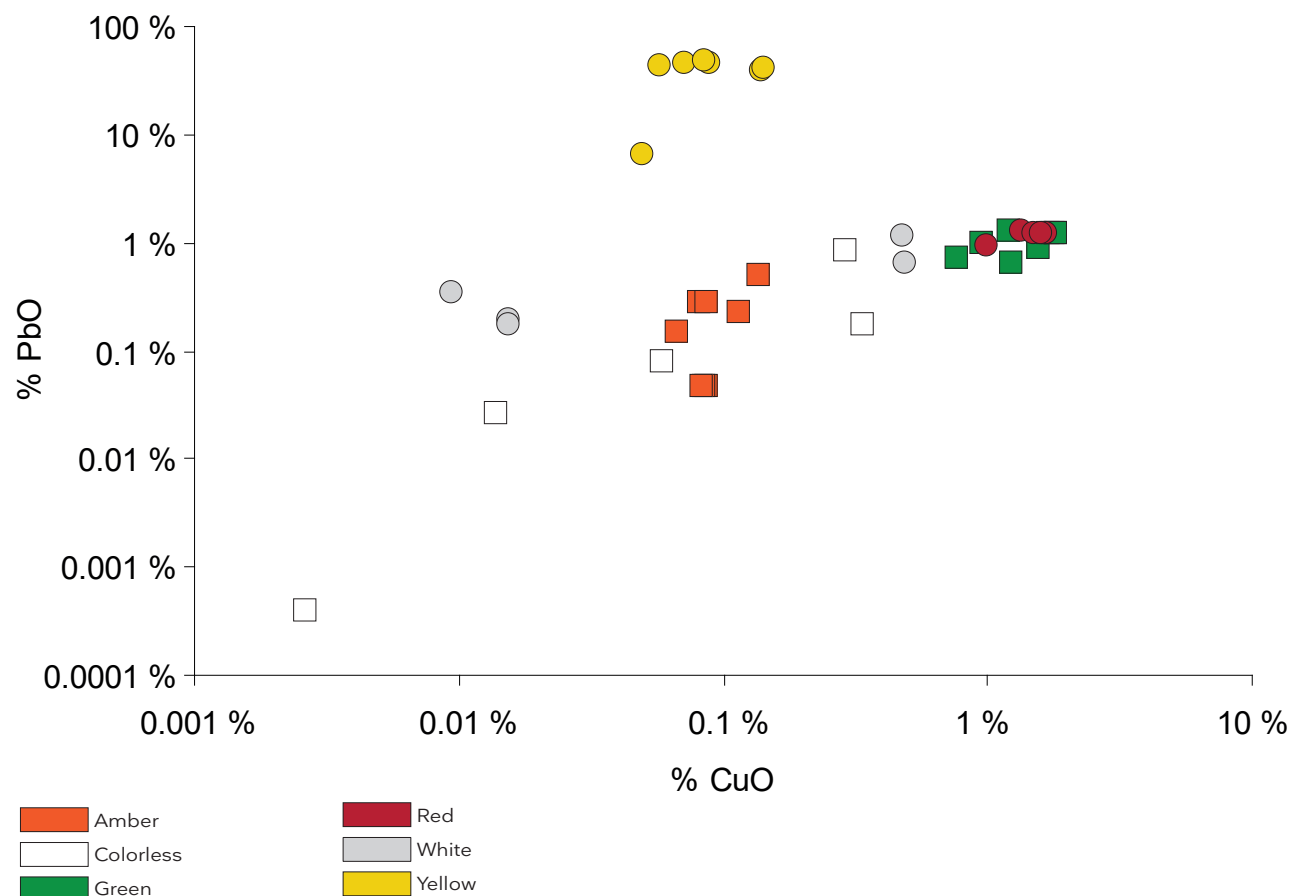


Fig. 13.5. Binary diagram PbO-CuO according to the colour of the glass vessels.

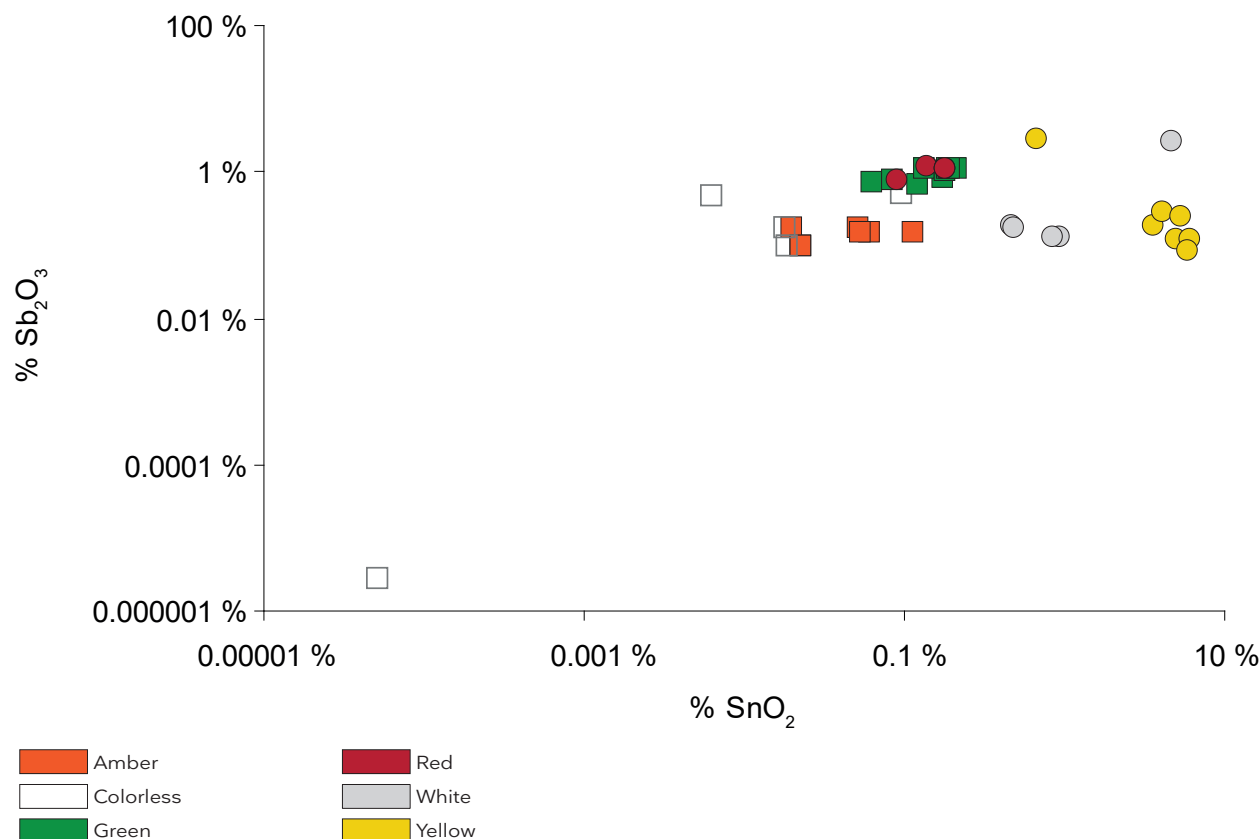


Fig. 13.6. Binary diagram Sb_2O_3 - SnO_2 according to the colour of the glass vessels.

coloured with copper, ten cobalt blue glasses, four white opaque glasses and four yellow opaque glasses.

According to their trace element signatures (Fig. 13.8), two of these glasses (Toftegård 59 and 698) show a typical Egyptian pattern (this group, called Egypt 2, is characterised by high contents of lime, zirconium and titanium and low strontium contents, and it is dated to the late 8th and 9th centuries AD; Shibille *et al.* 2019). Two others (Toftegård 251 and 33) are typical Levantine 1 glass (low in manganese, titanium and zirconium content). The classification of the other glasses is more difficult, either due to the presence of colouring or opacifying agents which may modify the trace elements signature (such as cobalt or tin/antimony yellow), or because they result from the mixing of different natron-based glass types. However, their positions in Figure 13.8 suggest that they consist mainly of different types of Syro-Palestinian glasses.

The contents of minor elements and trace elements in some glasses highlight recycling processes, which tend to increase the concentration of heavy metal inside the glassy matrix. Recycling is also evidenced by the composition of the yellow, opaque glasses, which contain both antimony and tin in various ratios (Fig. 13.9). The yellow glass bead with white and black decoration (Toftegård 171) is

of particular interest. On the one hand, the yellow glass which constitutes the body of that bead is made from a natron-based glass which is coloured and opacified with lead stannate (tin yellow containing also antimony), 0.97% of SnO_2 , 0.17% of Sb_2O_3 and 17.7% of PbO . On the other hand, the compositions of the black and white glasses suggest that these are made from soda-rich plant ash. No opacifier (neither tin, nor antimony) was found in the white glass (hypothetically, bubbles could be responsible of the opaqueness of the glass), while the composition of the black glass implies that it is more probably a brownish-red glass coloured with copper. Two other specimens, typologically similar to Toftegård 171 and recovered from Ribe, have also been analysed in Orléans. The first one (X165) presents the same colours, while the body of the second one (X142 01) is red and the motif black and yellow. It is interesting to notice that, for these two beads, the yellow and white glasses are plant-ash soda glasses which have been, respectively, coloured and opacified using pure lead stannate and pure tin oxide containing very little antimony, while the red and black/brownish glasses are natron-based glasses coloured with copper. Therefore, these similar beads found at Strøby Toftegård and Ribe were all produced by mixing natron-based and plant-ash glasses, but in an inverted manner. Here

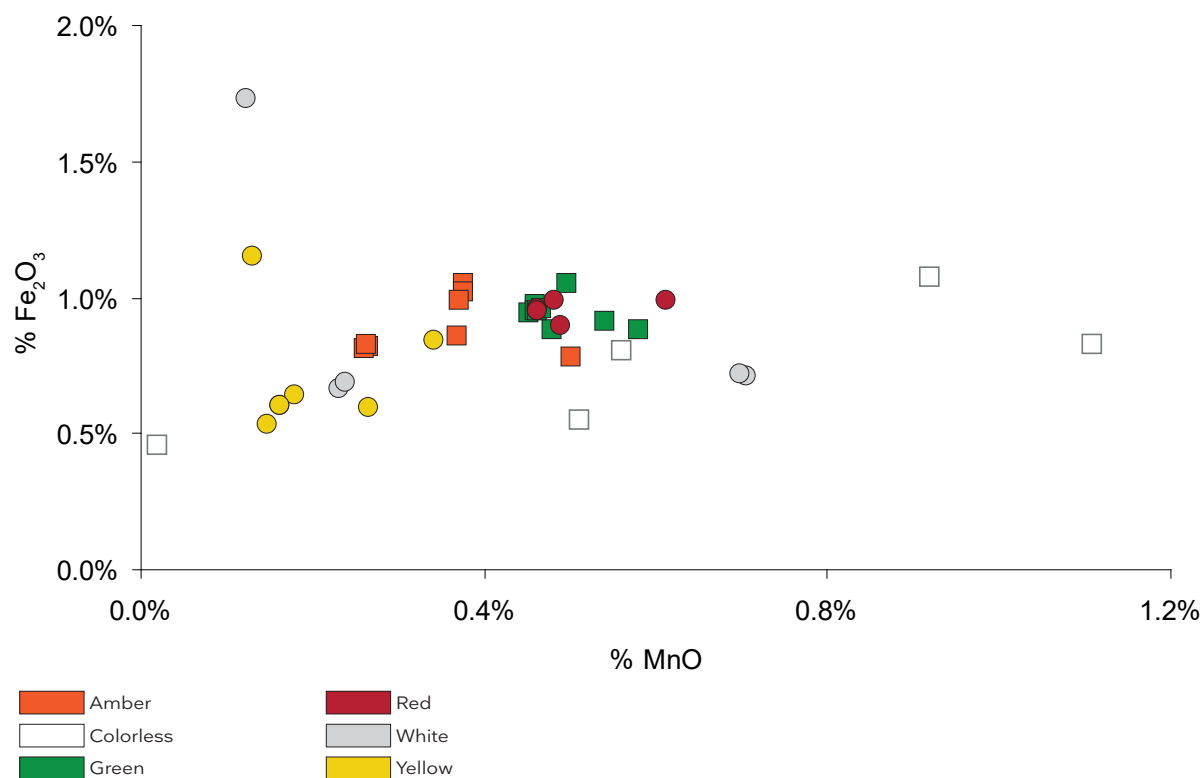
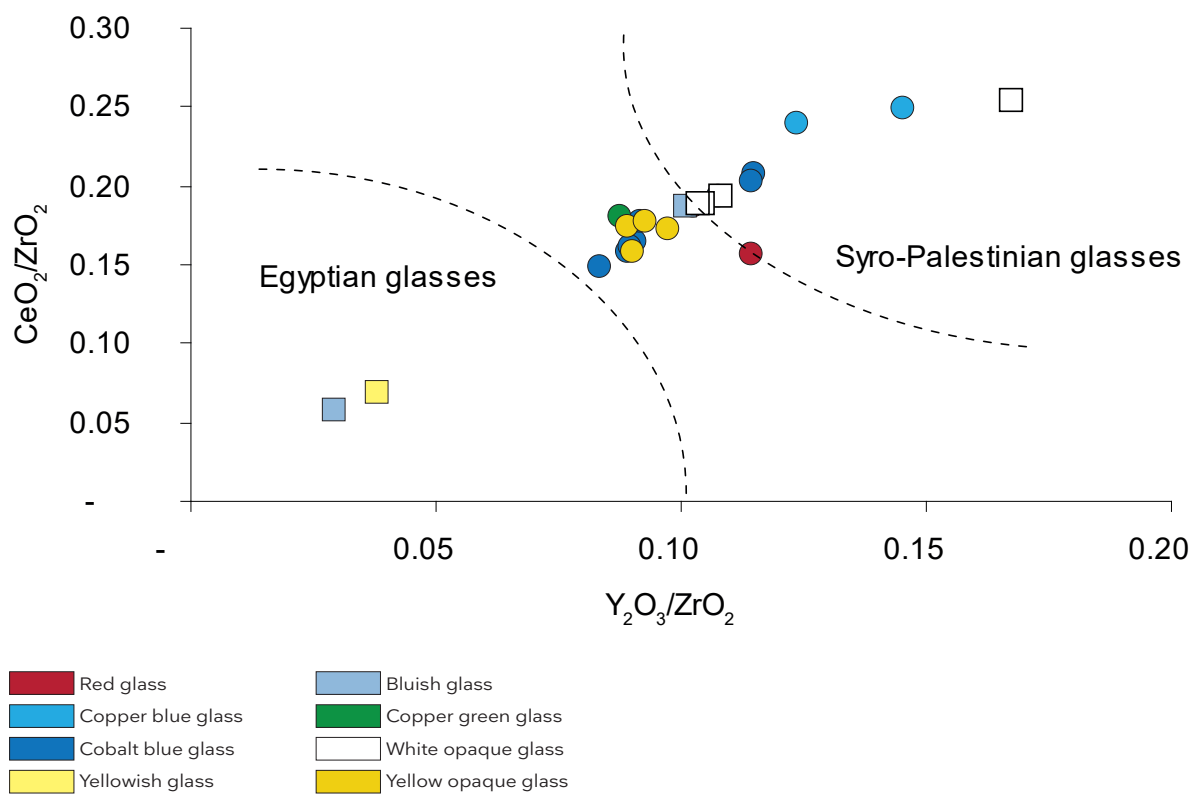


Fig. 13.7. Binary diagram Fe_2O_3 - MnO according to the colour of the glass vessels.



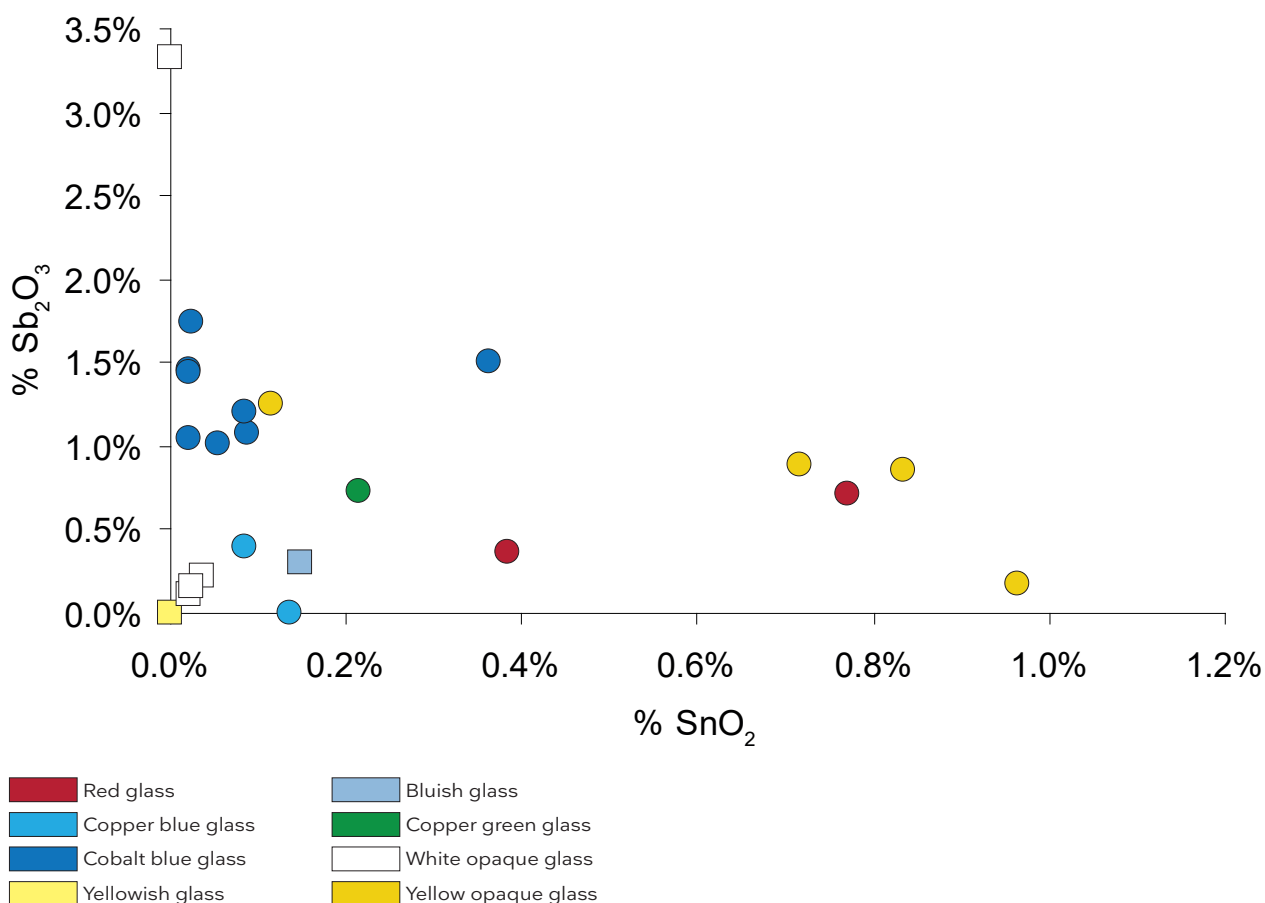


Fig. 13.9. Binary diagram Sb_2O_3 vs. SnO , according to the colour of the glass beads.

again, these beads are evidence of both recycling practices and local manufacture.

A similar case is the bead Toftegård 128 of which all the glasses, except the red one, are natron-based glass. The red glass belongs to a new type of glass which will be discussed below.

Plant-ash based soda-lime glass beads

Three beads and three decoration motifs (two of them discussed above, Toftegård 171 black and white glasses) belong to this group. With the exception of the two glasses belonging to Toftegård 171, these glasses (Toftegård 295, 322, 355 and 1042) are characterised by significantly higher contents of magnesia than potash. The two colourless segmented beads (Toftegård 322 and 1042) and the cold-cutting drawn cobalt blue bead (Toftegård 355) have lanthanum and chromium contents which distinguish them from other plant-ash soda-rich glasses, since these features usually characterise Mesopotamian productions (Shortland *et al.* 2007; Mirti *et al.* 2009). The classification of the yellow decoration motif of the bead Toftegård 295 is more difficult. This glass is also characterised by a high magnesia

content but has lower titanium and chromium content than the others. The presence of that type of glass on a potash glass bead is, again, proof of recycling practices, and it cannot be excluded that its original composition was affected during reworking.

For the three complete beads (Toftegård 355, 322 and 1042) it should be noted that this type of glass composition is not often found among ancient Mediterranean productions and, as stated above, the type seems more closely related to glass found in Mesopotamia (Mirti *et al.* 2009). It is therefore unlikely that these three beads were fabricated by local craftsmen. They must have been traded from workshops that were probably located in Mesopotamia.

The compositions of the black and white glasses of the bead Toftegård 171 seem to be related to Islamic glass-production centres located in the Eastern-Mediterranean coastal zone. Due to its association with a wood-ash glass, it could be hypothesised that the bead Toftegård 295 was made in Scandinavia by associating black, northern European wood-ash based potash-lime, glass, with yellow opaque, recycled Near-Eastern plant-ash based soda-lime, glass, and that, a long time after the yellow glass was made in the Near-East.

Wood-ash based potash-lime glass beads

Five beads belong to this group (Tofttegård 67, 140, 237, 295 and 692), which appears to be the most heterogeneous one. As stated above, these glasses are probably the most recent and are certainly not older than the beginning of the 9th century.

The glass which constitutes two of these beads (Tofttegård 237 and 295) has significantly high contents of soda, as is often observed in early wood-ash based potash-lime glass productions. This is due to the recycling of pre-existing soda-lime glasses. This hypothesis is reinforced by the presence of both types of glass, yellow plant-ash based soda-lime glass and red and black wood-ash based potash-lime glass, in the bead Tofttegård 295.

The red and black-red colours of these beads are due to the presence of metallic copper crystals in the glass matrix. The high lead, tin and zinc contents of these glasses are probably related to the colouring process and to the used colouring material (probably ternary alloys containing copper, zinc and tin). These constellations of elements are also frequently encountered in red natron-based soda-lime glasses produced during the Late Antiquity and Early Middle Ages.

The soda contents of the three other glasses (Tofttegård 67, 140 and 692) are three to four times lower, indicating that these beads probably correspond to a later production phase. The glasses of these beads own their tints, which are bluish and greenish, to the iron present as an impurity inside the raw materials used by the glass makers. No opacifier element was identified inside the glass of the bead Tofttegård 692. Its opacity is likely due to its structure (the presence of bubbles or devitrification crystals) or to the presence of calcium phosphate.

The bead Tofttegård 140 is probably a polychromatic glass bead. However, the bad preservation state of the glass prevented us from analysing the whitish decoration bands visible on that bead.

High-alumina mixed soda-potash glass

Two orange (Tofttegård 134 and 454) and two red (Tofttegård 196 and 366) barrel glass beads and the red glass used for the motif of the mosaic glass bead Tofttegård 128 belong to this group.

From a chemical point of view, the glass which constitutes the orange and red beads, Tofttegård 134, 196, 366 and 454, is a mixed soda-potash glass characterised by high concentrations of alumina (> 9 wt%) and trace elements (cerium, thorium, uranium and zirconium). The red colour is from metallic copper, and the orange from a mixture of small and large cuprite crystals. Copper concentrations range from 1 to 3 wt% in the red glass and from 11 to 17 wt% in the orange glass. The red glass of the bead Tofttegård 128 has a slightly different composition which seems to correspond to a blend of the red natron glass, described above, and the

high-alumina mixed soda-potash glass which makes up the beads Tofttegård 134, 196, 366 and 454.

This type of glass was recently identified in a research project on glass from the Viking Age market in Ribe (Andersen & Sode 2012; Sode *et al.* 2022). As part of that project, nearly 200 samples of raw glass, mosaic tesserae, vessel fragments, waste from bead production and finished beads were analysed by means of laser ablation-inductively coupled plasma-mass spectrometry (LA-ICP-MS). Among these, one red and two opaque, orange barrel-shaped beads had a unique high-alumina composition that seems to be closely related to small, drawn, monochrome Indo-Pacific beads known to have been produced in South and Southeast Asia (Francis 2002; Dussubieux & Gratuze 2013; Lankton & Dussubieux 2013), but these three beads also contained trace elements different from any other known glass type. Since these first results, this type of glass has been identified in different Viking sites, located in Sweden (Gotland), Denmark (Bornholm) and Germany (Frankfurt, Harheim) and dated to the 7th and 8th centuries (Sode *et al.* 2017). The results obtained from the glass material recovered at Strøby Tofttegård highlight the presence of this new glass type on this site.

Composition of the glass waste and slags

Nine artefacts presenting different degrees of vitrification have been analysed (Tofttegård 183, 189, 189a, 193, 245, 259, 435, 683 and 1059). The composition of one of them (Tofttegård 245) is characterised by the absence of both soda and potash and should probably be regarded as iron slag. Among the eight others, five have a high soda content (Tofttegård 183, 189a, 193, 259 and 435) and are probably linked to soda glass working. The compositions of four of these (Tofttegård 189a, 193, 259 and 435) are fairly similar to the one of natron-based soda-lime glass and, for Tofttegård 435, more particularly to Levantine 1 glass. Tofttegård 183 contains high levels of magnesia, alumina and iron oxide and was probably contaminated with various minerals.

The three last samples (Tofttegård 189, 683 and 1059) contain different levels of potash and lime that are associated with significant levels of soda. These objects can be interpreted as glass wastes resulting from the mixing of soda-lime glass with potash-lime glass. However, their contents in alumina and iron reveal a high degree of contamination with mineral elements which may stem from the constituent parts of the crucible, the glass furnace or the soil. It is therefore difficult to provide a more detailed interpretation of their composition.

Conclusion

The compositions of the glass objects from Strøby Tofttegård can be divided into four main groups: the two first ones are

both soda-lime glasses, but one is made with natron and the other with plant ash (*salicornia* sp., *salsola* sp.). In the third group, we find wood-ash based potash lime glasses, of which the production in Western Europe starts around the end of the 8th century. A fourth group of glass, only recently identified among Viking productions and which consists of high-alumina mixed soda-potash glass, is also present at Toftegård. These compositions correspond rather well to those of glass productions already identified at a variety of early medieval archaeological sites across Western Europe. From a chronological point of view, the production of these objects can be situated between the 7th and 8th centuries for most of the soda (natron and plant ash) glasses and the mixed soda-potash high-alumina glasses, and between the 9th and 10th centuries for the wood-ash glasses, which, in turn, should be considered the most recent productions.

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Landscape and archaeological sites in Stevns during the Late Iron Age

Maja Kildetoft Schultz

Abstract

The magnate farm of Strøby Toftegård is located in eastern Zealand, on the Stevns peninsula south of Køge Bugt, at a distance of c. 2 km from the coast and from the river valley of Tryggevælde Å. The nature of the house structures and items found at the site links it to the group of magnate farms from the Late Germanic Iron Age and the Viking Age. The situation of Strøby Toftegård nonetheless differs from other, contemporary magnate sites, such as Lejre and Tissø, by being close to the sea, and it moreover appears to be centrally located within a large catchment area. This article focuses on the question of whether Strøby Toftegård's placement could mean that the settlement was one of several wealthy settlements within the studied area. Hårlev is considered as a potential centre for the whole catchment area. No magnate site has as yet been found here, but certain elements may point in that direction. Moreover, for a number of years now, metal detecting in the southern part of Stevns, especially around the village of Frøslev and Arnøje, has been able to locate sites with metal items that may suggest the presence of wealthy settlements here, too.

Keywords: Landscape, settlements, stray finds, Late Iron Age, the Stevns peninsula

This chapter concerns the landscape and archaeological sites, primarily from the Late Iron Age, that are known from the catchment area around Strøby Toftegård (Fig. 14.1). The designation Late Iron Age is used about the period c. AD 600–1050.

The Stevns peninsula, together with those parishes that border onto Tryggevælde Å on the western side of this stream, have been selected as the areas in focus for the present study (Fig. 14.2). This constitutes a well-defined area in terms of both landscape and archaeology. To the west of the studied area, the landscape changes character with the hilly landscape around Herfølge, Algestrup, Haslev and Rønnede, and to the north, the studied area is delimited by the stream of Vedskølle Å. On all other sides, the area is delimited by the sea. In terms of known, archaeological sites, the number decreases the further west of Tryggevælde Å we go. Conversely, late place names and place names that

can be linked to clearing forest increase west of the area studied here (Albris, Chapter 15). The few archaeological finds are therefore regarded as conveying a reliable picture of a forested area which held few settlements during the Late Iron Age.

The first part of the article concerns the landscape in which Strøby Toftegård is situated, while the second part concerns the sites currently known to belong to the catchment area around Strøby Toftegård.

Source material and methods

Both modern and old maps have been used to describe the landscape. Older cartographic material may contain information that is valuable in terms of establishing an image of what the landscape must have been like prior to the extensive draining of wetlands that took place in the 19th

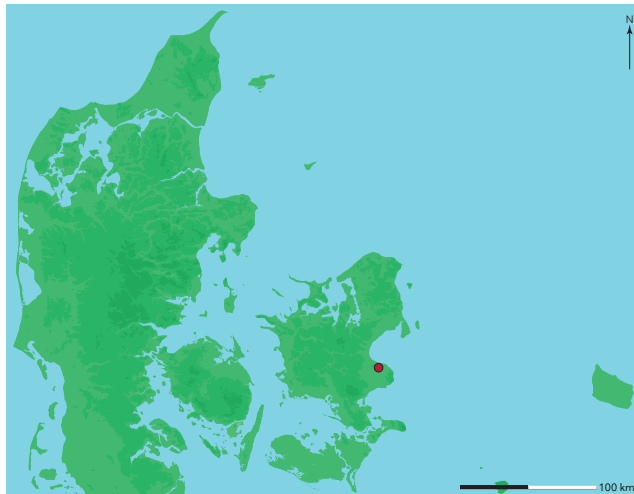


Fig. 14.1. Denmark; Strøby Toftegård is marked as a red dot. Background map copyright Danish Geodata Agency. Illustration: Museum Southeast Denmark.

and 20th centuries (Dalsgaard 1985; Korsgaard 2006). For the purposes of the present investigation, several historical maps have been reviewed: Jens Sørensen's map of Stevns (1709), *Rytterdistriktkort over Tryggevælde* (1720), *Videnskabernes Selskabs Kort* (1757–1820) as well as *Original 1* maps (1806–1860).

The landscape in the immediate vicinity of Strøby Toftegård is also described on the basis of pollen analyses carried out on material from two pits on the site. Unfortunately, there are no pollen series that can shed light on larger tracts of the landscape.

The survey is based on information from the national database for sites and monuments (*Fund & Fortidsminder*), as well as the archives of the Danish National Museum and Museum Southeast Denmark, including reports from various investigations. When a site is mentioned, an SB. Number is included in brackets, and this refers to the number that the given site has in the national database for sites and monuments. Attention is paid primarily to sites from the Late Germanic Iron Age and the Viking Age, but other sites dateable more broadly to the Iron Age are also included where they seem relevant.

Generally, more settlements from the Late Germanic Iron Age and the Viking Age have been studied in the northern part of the area under scrutiny here, but this is probably caused by a targeted effort on the part of Køge Museum to find settlements in the northern part of Stevns, for instance in Varpelev, Strøby and Valløby owners' guilds (*ejerlav*, an area owned and managed by the village in the 19th century). On the basis of field reconnaissance and metal-detector searches – often in areas carrying place names indicative of settlement, for instance names including the element *-tofte* – Køge Museum has mapped several Iron

Age sites. Some of the settlements that were found during reconnaissance were subsequently excavated, among these Strøby Toftegård and Bøgelund (Christensen & Tornbjerg 2009, 25). In the southern part of the investigated area, metal-detector searches have in recent years turned up many sites, but archaeological excavations are yet to be carried out on these sites. The picture we currently have of Late Iron Age settlement in Stevns, with more sites in the north and fewer in the south, may thus change as new knowledge is gathered. Especially the increased use of metal detectors means that new sites are discovered.

Topography

Stevns is generally dominated by an easy and rather flat landscape, only a few places are more than 25 m above sea level. The exception is the eastern part around the chalky limestone cliffs of Stevns Klint, where the landscape rises to more than 40 m above sea level and then drops steeply down to the sea. The cliffs reach from Gjorslev Bøgeskov in the north to Rødvig in the south. North and south of the cliffs there are flat beaches around Strøby Egede to the north and Rødvig to the south. In north-eastern Stevns, the area around Gjorslev and Søholm features a tunnel-valley landscape, but apart from that, Stevns is characterised by a till plain (Houmark-Nielsen 2011, 1).

West of Tryggevælde Å, there is a hummocky topography around Valløby and Himlingeje, which digresses from the otherwise rather flat Stevns. However, it is only with the hills marking the glacial stationary line at the western edge of the studied area that the landscape truly changes and becomes hillier.

Arable land and wetlands

The relatively flat landscape with arable, clayey soil mixed with sand probably constituted the basis for the settlements in Stevns, which in the Late Roman Iron Age stands out because of the wealthy graves around Himlingeje, Varpelev and Valløby (Fig. 14.3). Studies of agrarian production in Denmark in the 17th century show that Stevns is among the most agrarian-dominated areas in Zealand during this period (Dam 2010, 63).

The landscape visible in Stevns today is heavily drained and large tracts that were previously wetlands have come under the plough. The earliest detailed maps containing information about things such as soil use, field boundaries, settlement and roads were made in the early 19th century and are known as *Original 1* maps (Korsgaard 2006, 79). These maps describe the as yet undrained landscapes and thus provide a good impression of wetlands in particular.

In connection with excavations of the very wealthy Late Roman Iron Age graves at Himlingeje, studies of geological maps, aerial photographs, topographical maps



Fig. 14.2. Stevns; the studied area is marked with a red line and Strøby Toftegård with a red dot. Background is detailed topographical map (Høje Målebordsblade, 1864–1899). Map contains data from the Danish Geodata Agency supplied by author. Illustration: Museum Southeast Denmark.

and cadastral maps from the early 19th century have enabled the creation of a description of what the landscape was like prior to drainage. The conclusion is that wetlands constituted about a quarter of the investigated area, but also that these wetland areas were filled with peat already during the Boreal period (Dalsgaard, Nørnberg & Sørensen 1995, 42–45).

In the present study, the Original 1 map has been inspected for the parish of Strøby and, where it was deemed relevant, also for other locations.

Forests and landscapes from the oldest maps

If the soil is to be cultivated, it is a condition that large areas must be unforested. There are no pollen series or other scientific studies of Stevns that can tell us about the general

degree or character of the vegetation in this landscape. In connection with the present publication, pollen analyses have been carried out in order to describe the landscape in the immediate vicinity of Strøby Toftegård, and these show open areas that were either cultivated or grazed (Henriksen & Mortensen, Chapter 5). In order to obtain an indication of whether forest was predominant in Stevns, older cartographic sources and place names have been consulted. The cartographic material, which is introduced here, is many centuries younger than the Viking Age, but without pollen series, maps are the best way of getting an indication of which areas may have been covered by forest.

The earliest map that covers the relevant area is Jens Sørensen's map of Stevns from 1716 (Fig. 14.4). Jens Sørensen originally drew sea charts, but in 1709 he was commissioned by the widow of King Christian V, Charlotte

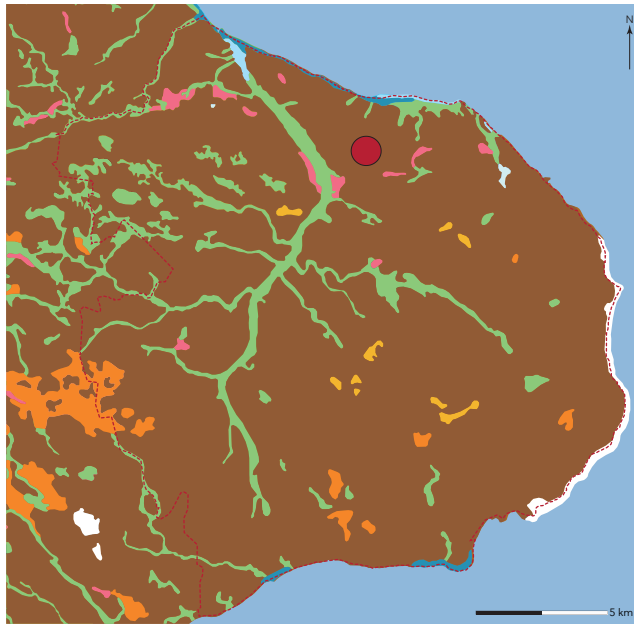


Fig. 14.3. Geological map of Stevns, the location of Strøby Toftegård is marked with a red circle. Dark brown indicates till (clay soil), light brown till (sandy clay soil), dark orange (downwash sandy deposits), light orange (glaciofluvial sand and gravel), pink glaciofluvial sand and gravel and green freshwater deposits: peat, gyttla, galy, silt and sand. Map contains data from surface Geology map of Denmark from the Danish Geodata Agency supplied by the author. Illustration: Museum Southeast Denmark.

Amalie, to create a map of her estates in Stevns: Gjorslev, Vemmetofte and Højstrup (Bové 1998, 70). This map shows estates, villages, forests and roads, as well as Tryggevælde Å. On the whole, the map reveals a relatively unforested landscape with villages near, yet a little withdrawn from, the coast, except for Rødvig in southern Stevns, which is right on the coast.

In connection with Strøby Toftegård, it is worth noting that the map shows a water-filled trench going from the coast at Køge Sønække to a fairly small forested area, which appears to correspond to the site known today as Skæppelund (Fig. 14.5). If this trench were also water filled during the Late Iron Age, it may have been used to sail or haul ships up there for shelter against wind and weather. However, there are no archaeological finds to confirm this hypothesis, but nor have any excavations been done. Today, the area is covered by woods, but LiDAR maps reveal ancient field systems in the woods (SB 050608–123) (Nielsen 2010, 184–187). These ancient field systems have not been dated, but hitherto, no other known settlements are known in this area, and so it is likely that the fields belong with Strøby Toftegård.

In the years 1720–1723, a number of districts (*Rytterdistrikter*) were selected, among these Tryggevælde, and surveys were done for the purposes of creating maps

(Fig. 14.6). The map of Tryggevælde district covers a slightly bigger area than Jens Sørensen's map and it reveals that the area west of Tryggevælde Å was more densely forested than Stevns was. Where these two maps overlap, they are largely similar, and the map of Tryggevælde district also shows the water-filled trench running from Køge Sønække to Skæppelund.

The place-name material, too, supports the notion that Stevns was relatively unforested during the Late Iron Age, since the area holds only few clearance names and place names that are thought to originate in the Late Viking Age and the Middle Ages (Albris, Chapter 15). Maps and place names thus point in the direction of a relatively unforested area bordering onto a more densely forested region.

The coast

The coastline that partially encircles Stevns is dominated by an up to 40-m-high, steep limestone cliff (Fig. 14.7), although stretches of flat foreshore occur both north and south of the cliffs. In several places, an about 5-m-high bank rises behind the beach, but at Strøby Toftegård, the terrain evens out and there is a gentle slope from the beach up onto the till plain (Fig. 14.8). The site is named Strøby Ladeplads and is still used by smaller vessels that can be pulled up onto the low-lying and easily accessible shore (Fraes Rasmussen 2009, 128). No remains of wrecked vessels have been found, but the topography indicates that it is possible to bring a vessel to shore exactly here. The place name *Ladeplads* means 'embarkation place', but it is not known to have been in use prior to the late 19th century.

Water courses

The Stevns peninsula is cut through by a network of minor water courses that flow into the river valley of Tryggevælde Ådal, whose outlet is in Køge Bugt. Tryggevælde Å has its springs near the lake Ulse Sø, at Haslev in central Zealand, and it remains a narrow, winding stream until it merges with Stevns Å at the manor of Tryggevælde Hovedgård south of Hårlev. From the confluence with Stevns Å, Tryggevælde Å runs up into a 500-m-wide river valley whose mouth is in Køge Bugt north of Strøby Egede. Already in the 1870s, the stream was straightened out and today it appears more like a canal (Madsen & Debois 2006, 91). On the Original 1 maps from the early 19th century, the course of the stream is rendered as lightly winding south of Valløby, while the section north of this point is rather more straight. From the point of confluence with Stevns Å, the river valley is low in relation to the sea and the stream flows slowly through the landscape with a very small drop. The meadowlands onto the wide river valley are often flooded in connection with heavy rains (Fig. 14.9).



Fig. 14.4. Jens Sørensen's map of Stevns from 1716. South is up on the map. This map is the oldest known one to show Stevns hundred, and it shows a landscape with very little forest. Courtesy of Det Kgl. Bibliotek.



Fig. 14.6. Historical map of Tryggevælde district from 1723 (Rytterdistrikt). The map shows an area of Stevns with little forest cover along the western side of Tryggevælde Å, while the area further to the west has more forest. Background map courtesy of Det Kgl. Bibliotek.

bridges constructed from recycled building timber, and also in chronology, some stemming from Neolithic times, others from the Middle Ages (Fig. 14.11). The dating of these roads is based on stratigraphical observations combined with ^{14}C -analyses (Hansen & Nielsen 1979, 72–115). Roads and bridges that have been studied are described below together with other known sites.

Archaeological sites in Stevns

This section starts off with Strøby Toftegård, and finds from the immediate vicinity are described in detail.

Following this, we will look at finds from the Late Germanic Iron Age and the Viking Age in, respectively, northern Stevns, the area around the confluence of Stevns Å and Tryggevælde Å, eastern Stevns and southern Stevns (Fig. 14.12).

Strøby Toftegård

The site of Strøby Toftegård (SB 050612–74) is situated in Strøby *ejerlav*, which is the northernmost *ejerlav* in Stevns Herred. The *ejerlav* is delimited to the north by the coast and to the west by Tryggevælde Å. To the south, it is bordered by a smaller stream and to the east, a more or

less coherent wetland area is visible on the Original 1 map. The settlement of Strøby Toftegård is situated a little inland from both coast and stream, with just under 2 km to the sea and about the same distance to Tryggevælde Å. Finds of faunal remains from both saltwater and freshwater fish show, unsurprisingly, that fishing was done both at the coast and in the stream (Gotfredsen, Chapter 6).

The landscape around Strøby Toftegård is shaped by low hillocks and hollows, and Strøby Toftegård itself is located on a slightly raised plateau surrounded by small depressions which, prior to drainage, must have been wet. West of here, the Original 1 maps show several wetland areas which, however, are not coherent and thus the area was not impassable. There are hollows also to the east and south-east, which were presumably wet and will have impeded traffic in this area. To the northeast and the south-west, on the other hand,

there are even flatlands reaching to, respectively, the coast and the stream, and these will have been the easiest ways of accessing the site. No roads or fences with openings have been excavated that might reveal the direction from which the site was accessed, and so the landscape features are the only reference points for how people moved around the area. Another indication that this was the preferred access, is that the Original 1 map shows a road just west of the settlement (Fig. 14.13).

The studies at and of Strøby Toftegård show – expectedly – congruity between the wetlands and the location of the settlement. It looks as if the settlement area was bordered by lower-lying wetland areas. A few trial excavation trenches



Fig. 14.7. The coast along the Stevns peninsula changes dramatically. To the north and south, there are flat sandy or stony beaches (see Fig. 14.8), while the cliffs rise steeply along the central part of Stevns. Photo: Østsjælland Museum.



Fig. 14.8. The coast in northern Stevns at Strøby Ladeplads. Topographically speaking, the place is suitable as an embarkation place, as also the place name indicates. The distance from Strøby Toftegård to Strøby Ladeplads is about 2 km. Photo: Museum Southeast Denmark.



Fig. 14.9. Tryggevælde Å during a wet and a dry period, respectively. Both photos show the river valley at Hellested. The photo on the left is facing north, while the photo on the right is facing southeast towards Hellested (the church is seen in the background). Photo: Museum Southeast Denmark.

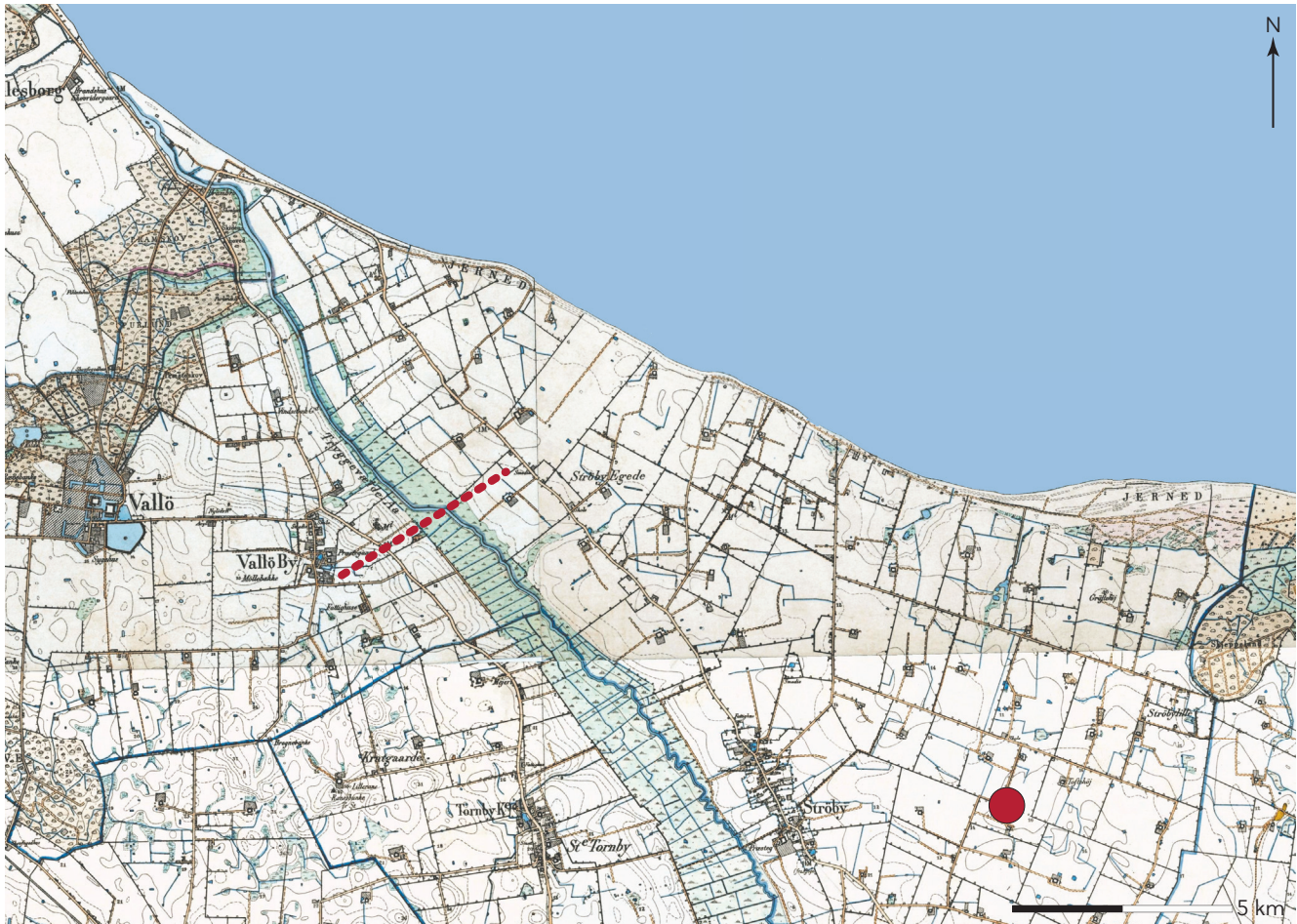


Fig. 14.10. Detailed topographical map (Høje Målebordsblade, 1864–1899) of northern Stevns. The excavated areas at Strøby Toftegård are marked with a red dot. The course of the stream is fairly straight for the northern part, but south of Valløby it becomes more winding (see the dotted red line). Contains data from the Danish Geodata Agency supplied by the author. Illustration: Museum Southeast Denmark.

were dug into these wet areas, revealing that there were wells here. Also, cultural layers with charcoal and burnt stones have been found in this area, but no coherent deposits or structures were located (Beck 2012). It thus must be assumed that the wetlands did not serve as depositories, but merely constituted a natural boundary for the settlement and thus functioned as a peripheral zone of dump areas. Whether the depressions served as a form of protection cannot be discerned from the maps, but it is clear that they constituted a boundary for the settlement.

Only part of the plateau has been excavated, but the unexcavated areas were examined by means of trial trenches (Fig. 14.14).

Pollen analyses from two deep pits or wells (A31003, A30565) at Strøby Toftegård contained mainly pollen from plants that grow in pasture areas and thus support the interpretation that the lands closest to Strøby Toftegård were open, cultivated lands (Henriksen & Mortensen, Chapter 5).

Kastaniehøj

Only 600 m west of Strøby Toftegård, and separated from it by a small hollow in the landscape, lies another settlement from the Late Iron Age, Kastaniehøj (SB 050612–80), which resembles Strøby Toftegård in several ways (Fig. 14.15). This site, too, contained high-status items and was placed in the immediate vicinity of a burial mound that has now been ploughed over. The items found at Kastaniehøj are of high quality and include, *inter alia*, an early English coin and a similarly rare Carolingian, bronze coin brooch from the 9th century, as well as a Continental silver fitting (Baastrup, Chapter 7).

The site was discovered in connection with metal-detector surveys, which threw up items with a chronological spread from Late Germanic Iron Age to the Middle Ages. In 2000, five trial trenches were laid out and a total area of just under 1000 m² was uncovered. During the preliminary examination, many postholes and pits emerged, as well as some cultural layers, but only few house structures could



Fig. 14.11. Detailed topographical map (Høje Målebordsblade 1861–1899) showing Strøby Toftegård (red dot) and Iron-Age crossings of Tryggevælde and Stevns Å (arrows), as well as the watersheds of southern Stevns (dotted line). Contains data from the Danish Geodata Agency supplied by the author. Illustration: Museum Southeast Denmark.

be discerned. In addition to this, a well and the remains of a burial mound were excavated. The well could not be dated, but it was overlain by a cultural layer containing ancient pottery. The burial mound is broadly dated to the Late Bronze Age or Iron Age since, underneath the mound, a house containing pottery from the Late Bronze Age, periods IV–V, was found (Sørensen 2000).

In 2016 and in 2023, new investigations were carried out at the site (Fig. 14.16). At first, the area was once again searched using metal detectors and subsequently about 6 ha were examined using a magnetometer. The results of the magnetometer survey indicated activity on the site, but it was not possible to detect houses or other features on the basis on this survey alone.

The metal-detector searches resulted in finds of items from the Late Iron Age, including fragments of brooches and weights, as well as Arabic coins. But, also, a number of

later items were unearthed, including an English coin from the 11th century and several medieval coins.

On the basis of the trial trenches from 2000 and the results of the magnetometer study, two smaller areas and selected square metres of plough soil were subjected to sieving. The sieving did not result in the same quantity of items as the corresponding sieving at Strøby Toftegård did. Only a few sherds of pottery were found, and the very time-consuming work was halted after about 20 m². Two smaller areas were excavated and trenches laid out, covering some 2.5 ha. The preliminary study showed that the settlement covered an area of at least 3 ha, but a full investigation of the structures on the site could not be carried out within the limitations of the study. It was nonetheless clear that the settled area was extensive, and in one of the two small excavation areas, at least four houses were discovered, of which two could be dated to the Viking Age

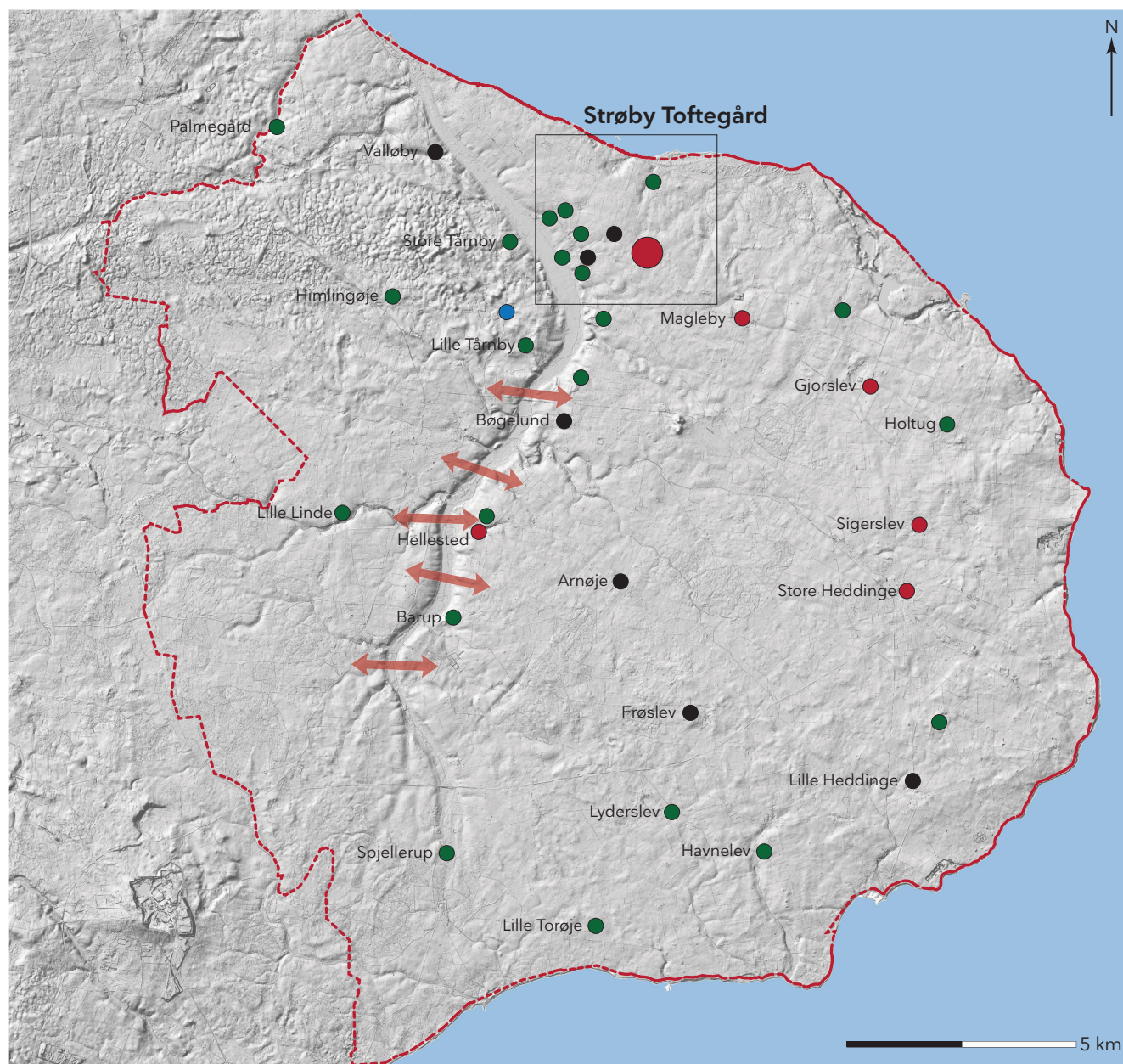


Fig. 14.12. Catchment area of Strøby Toftegård (large red dot), including sites mentioned in the article. Excavated sites (black dot), historical villages with pottery from Viking Age (red dot), sites with stray finds from the Late Iron Age (green dot), treasure find (blue dot), crossings (arrow). Background map: LiDAR 2023. Contains data from the Danish Geodata Agency supplied by the author. Illustration: Museum Southeast Denmark.

on the basis of artefacts and house typology (Fig. 14.17) (Kildetoft Schultz 2018).

Strøby Toftegård and Kastaniehøj are contemporaneous and to some extent belong to the same social strata, as indicated by the artefacts found in the excavation from 2000. It is not possible to directly compare the structures of the two sites, since the excavation work done at Kastaniehøj is limited to trenches and smaller excavation areas. Anne Sørensen has suggested that Kastaniehøj may have been a market site,

but without further scrutiny of the site, its function cannot be assessed (Sørensen 2008, 272). It is, however, beyond doubt that, quite close to the magnate farm of Strøby Toftegård, there is yet another site with a wealthy finds record and a large number of houses (Figs 14.18–14.19).

Stølgård and Amtskrivergården

In the village of Strøby, c. 1.5 km west of Strøby Toftegård, two minor, preliminary studies have been carried out on

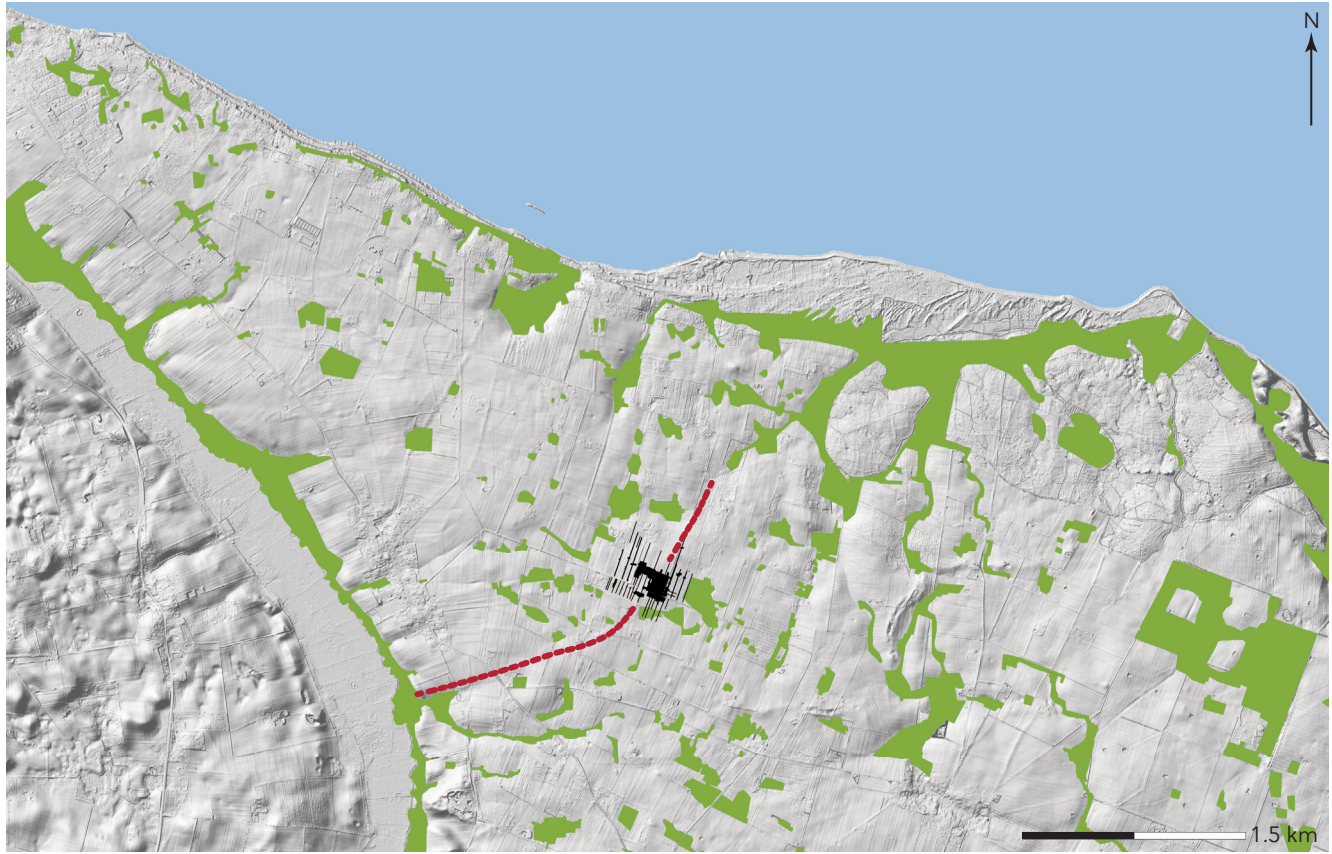


Fig. 14.13. Excavation areas at Strøby Toftegård on a LiDAR map; the wetland areas from the Original 1 map have been included (green). The wetland areas partially enclose the settlement site. The most obvious access routes have been marked with dotted lines. Contains data from the Danish geodata Agency supplied by the author. Illustration: Museum Southeast Denmark.

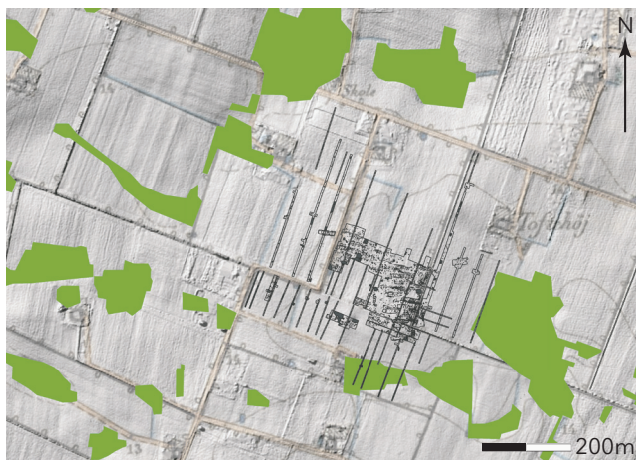


Fig. 14.14. Map of the wetland areas from the Original 1 map (green) and excavation plan. Background map: Transparent LiDAR on detailed topographical map (Høje Målebordsblade). Contains data from the Danish Geodata Agency supplied by the author. Illustration: Museum Southeast Denmark.

the sites of Amtskrivergården (SB 050612–77) and Stølgård (SB 050612–99). Both of these studies have been able

to document traces of buildings from the Early Middle Ages, as well as stray finds from the Late Iron Age (see below). At the Stølgård site at least one large house was excavated along with a large number of artefacts from early medieval time.

Northern Stevns, landing places

As yet, no landing sites have been located along the northern coast of Stevns, but, unlike the long stretch of steep cliffs from Bøgeskoven to Rødvig, it was probably possible to bring a ship ashore at Strøby Ladeplads north of Strøby Toftegård.

No archaeological finds document the existence of a landing site by the coast, but the place name Snekkemose near Strøby Toftegård may be linked to ships (Fig. 14.20). Place names containing the element *snekke* may refer to ships and it is thought to have been coined in the Early Middle Ages. The location of Snekkemose is situated about 2 km north-east of Strøby Toftegård and is visible on relief maps as a depression in the landscape, separated from the shore by just a narrow hillock. There was probably no direct access to the sea, but it is still possible that people were able to haul their precious ships a short distance across land in

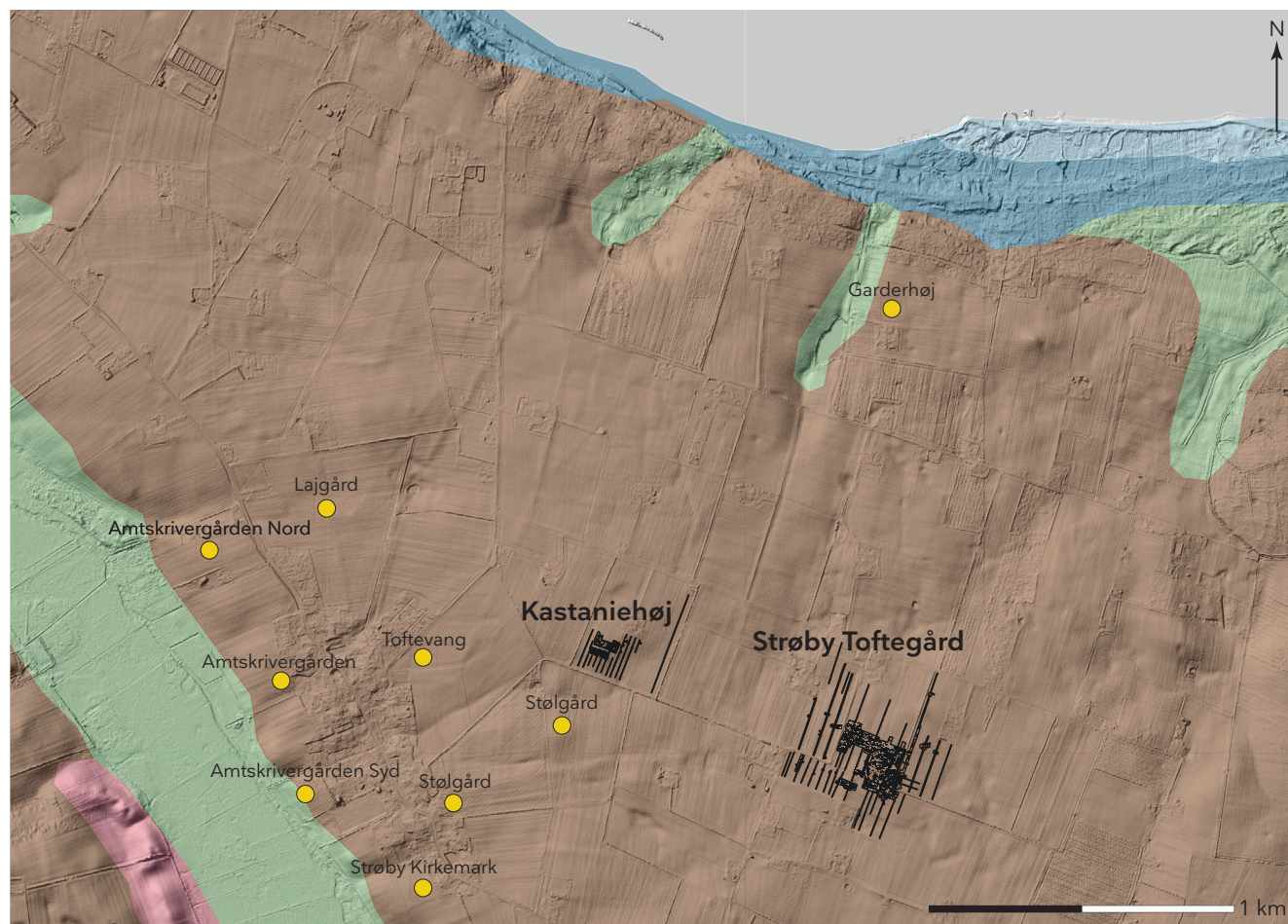


Fig. 14.15. Less than 1 km west of Strøby Toftegård, another settlement, Kastaniehøj, from the Late Germanic Iron and Viking Ages has been investigated. The map includes nearby localities where stray finds have been made: Garderhøj, Lajgård, Toftevang, Stølgård, Amtskrivergården and Strøby Kirkemark. Background map is a transparent LiDAR on a geological surface map. Dark brown indicates till (clay soil), pink glaciofluvial sand and gravel and green freshwater deposits: peat, gyttla, galy, silt and sand. Contains data from the Danish geodata Agency supplied by the author. Illustration: Museum Southeast Denmark.

order to bring them into a place sheltered from wind and weather. The name *Snekkemose* is known from the Danish field-name records, Markbøgerne, of 1682 as *Sneche Moese Aas* and from the cadastral map of 1797 as *Snecke Moes Aas* (Holmberg & Madsen 1998). Today, the place name exists in the form of the farm name *Snekkemosegård*. The area has been searched using metal detectors, but no items from the Late Iron Age were found (SB 050612–109). It is therefore very uncertain whether the place name goes back to the Viking Age, nor is it clear why the bog acquired this name.

Some 1.5 km north-east of Strøby Toftegård lies Skæppelund on a modest elevation surrounded by low-lying areas on three sides. Today, a small stream called Skæppelundløbet goes into Skæppelund. On Jens Sørensen's 1716 map of Stevns, Skæppelundløbet is marked as wide and waterfilled, which might indicate that it was possible to haul ships in here as well

(see Fig. 14.5). At the point where the stream empties into Køge Bugt, there is a small promontory called Køge Sønakke. However, in its original form, this name did not refer to the borough of Køge, but probably took the form **kius* instead, a name that did not survive into Old Danish, but is evident from other place names, such as Kyse in the parish of Vallensved in south-western Zealand and Kius in the parish of Ulsnæs (South Slesvig). In Swedish, the noun *kjusa* means an 'elongated, narrow valley between mountains and high points', and in Norwegian, the term *kjos* refers to a 'narrow cove or bay by the sea', 'a hollow, a low-lying and enclosed place, especially about a grassy spot in a marshy depression'. Finally, in Old Norse, the noun *kjóss* means an 'opening, a cavity inside of which something may be hidden' (Jørgensen 2002, 12).

Because of their topographical situation and names, Skæppelund and Snekkemose may thus point in the direction of places where ships could be kept in connection



Fig. 14.16. The Kastaniehøj site with excavation areas and trenches from the 2000, 2016 and 2023 and contours with 0.5 m equidistance (2007). Contains data from the Danish geodata Agency supplied by the author. Illustration: Museum Southeast Denmark.

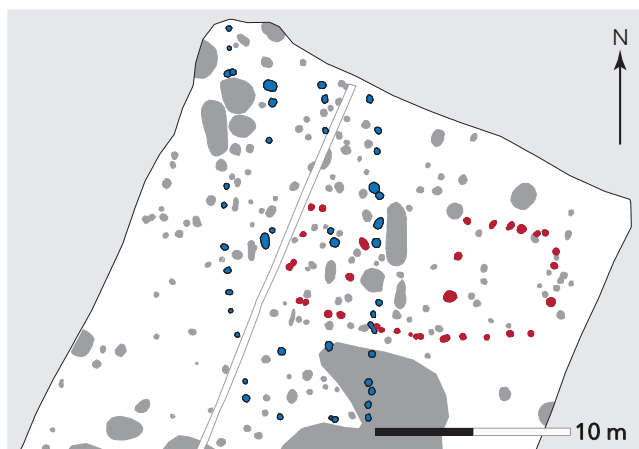


Fig. 14.17. Excerpt of excavation area 2 from the 2016. One east-west-oriented (red) and one north-south-oriented house (blue) are shown, but inside the limits of this small excerpt, another four houses can be discerned as sets of roof-bearing posts. Illustration: Museum Southeast Denmark.

with repair work or to be sheltered from wind and weather. No objects or structures have been located to support the onomastic and topographical evidence, but future investigations can hopefully either verify or reject the hypothesis.

Another possibility is that the landing site was located immediately west of the village of Strøby along Tryggevælde Å. Recent metal-detector surveys have resulted in the finds of Late Iron Age objects from the field between Strøby and Tryggevælde Å (SB 050612–77, –98, –99, –105, –107, –108, –111, –113) (Fig. 14.21). Among these

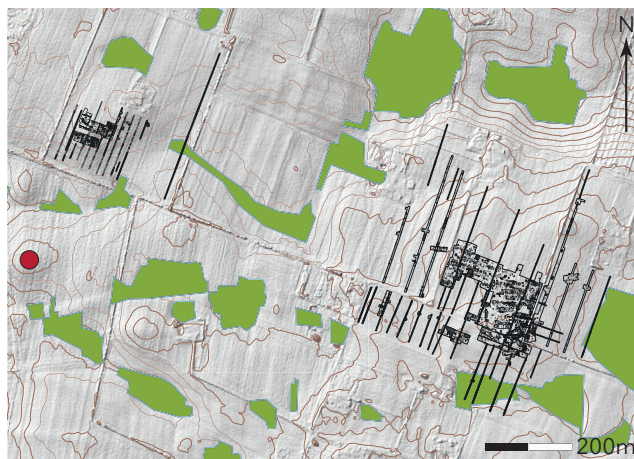


Fig. 14.18. Map with contours (0.5 m equidistance, 2007) as well as wetland areas (green), as these appear in the Original 1 map. Also included are excavation areas and trenches from Strøby Toftegård and Kastaniehøj, as well as stray finds from Late Iron Age south of Kastaniehøj at the site of Stølgård (red dot). Contains data from the Danish geodata Agency supplied by the author. Illustration: Museum Southeast Denmark.



Fig. 14.19. Objects from Kastaniehøj. Photo: Museum Southeast Denmark.

was a spherical weight, dirhams, as well as fragments of brooches (ranging from Late Roman Iron Age to Early Middle Ages) and an English coin from the mid-11th century (Fig. 14.22).

The possibility that the village should be regarded as having been established as a (more ordinary) successor to the magnate farm of Strøby Toftegård therefore cannot be excluded, keeping in mind that the site was active and potentially settled already while the magnate farm was still in use.

Graves

There are no certain Viking Age graves from Strøby *ejerlav*, but then again, graves from this period are generally speaking rare in Stevns.

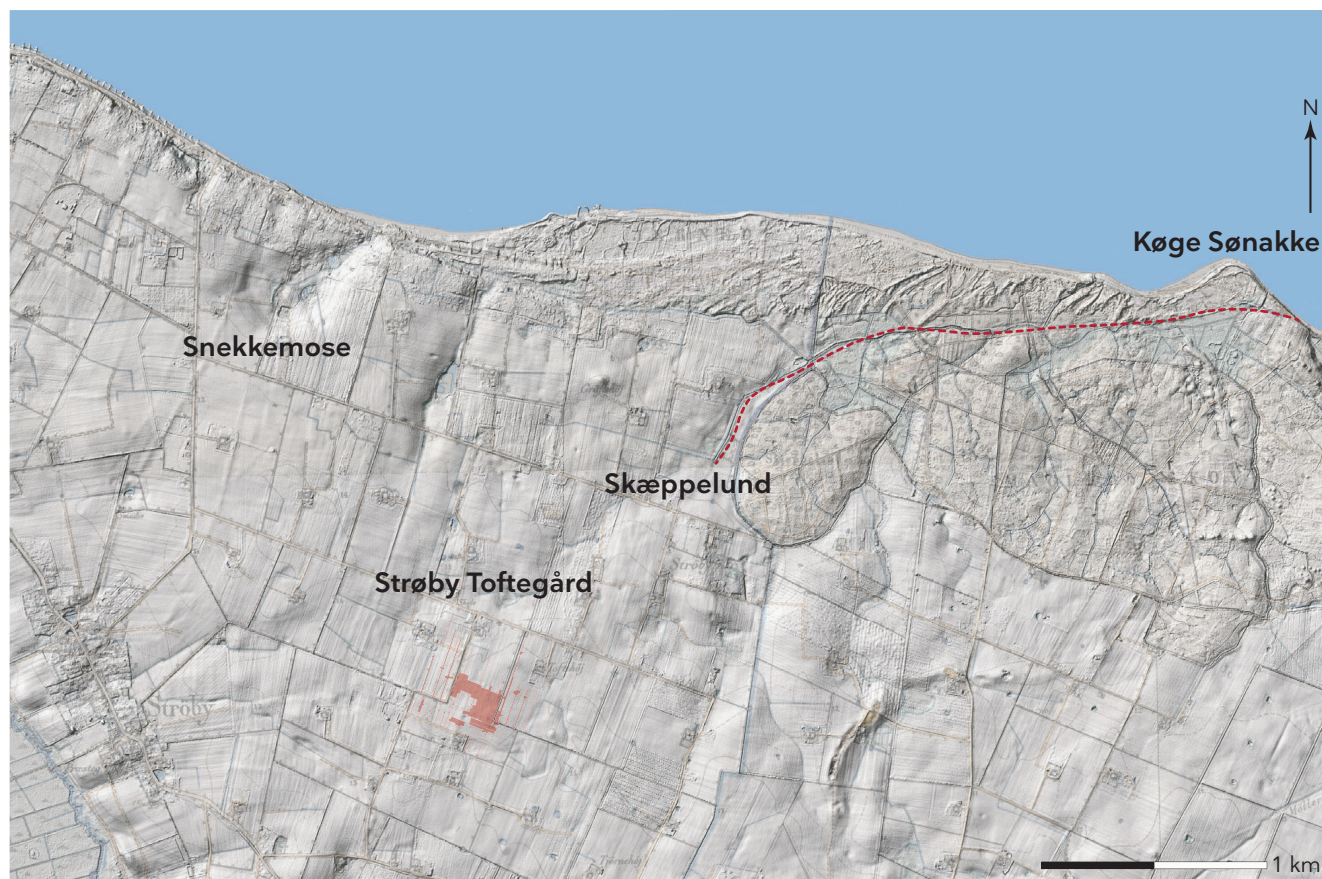


Fig. 14.20. Relief map with the location of Snekkemose, Skæppelund, Køge Sønakke and Strøby Toftegård. The red dotted line shows the waterfilled area from Jens Sørensen's map. Contains data from the Danish geodata Agency. Illustration: Museum Southeast Denmark.

In archive of the Danish National Museum, there is, however, information about a bronze stirrup decorated with Urnes-style ornamentation (11th century) (Fig. 14.23). The stirrup was supposedly found in the parish of Strøby (NM 86/04), but unfortunately without any location details. Yet, there is possibly a link between the stirrup and the stretch along the coast near Strøby Egede. A small note in the journal *Danske Studier* 1931 describes how older inhabitants of the Stevns peninsula recall that a bronze stirrup was allegedly found in a garden that had been the recipient of added soil in connection with the levelling of one of the burial mounds at Strøby Egede (Boberg 1931, 19). The bronze stirrup may stem from a grave and that grave could have been located in a mound near the coast at Strøby Egede north of Strøby Toftegård.

This potential link must be taken with a pinch of salt, but in combination with undated inhumation burials along the coast (SB 050612–52), it may still point in the direction of the coast as a burial site. South of Strøby Toftegård, burial mounds as well as burials have been registered on the banks of Tryggvælde Å (SB 050612–4, –5, –6,

–7, –8, –8A, –9, –10). The site is called Aulebjerg, after the farm near which they are placed. In total, five round mounds (SB 050612–4, –5, –6, –7, –8) and three sites with inhumation graves (SB 050612–8A, –9, –10) have been registered (Fig. 14.24).

The burial mounds have been demolished, but items collected from the site date most of the mounds to the Bronze Age, while items from some of the inhumation graves date these to, respectively, the Neolithic and the Roman Iron Age. Excavations were only carried out in connection with SB 050612–8A (graves from the Neolithic), while the remaining graves were found in connection with gravel excavation and were registered towards the end of the 19th century. However, several of the graves have not been dated. Metal-detector searches in the vicinity of the burial mounds and inhumation graves at Aulebjerg have resulted in finds consisting of brooches and riding equipment from the Late Germanic Iron Age (Fig. 14.25). This combination of items may suggest a burial site, but as yet, no archaeological excavations have been carried out to verify this.

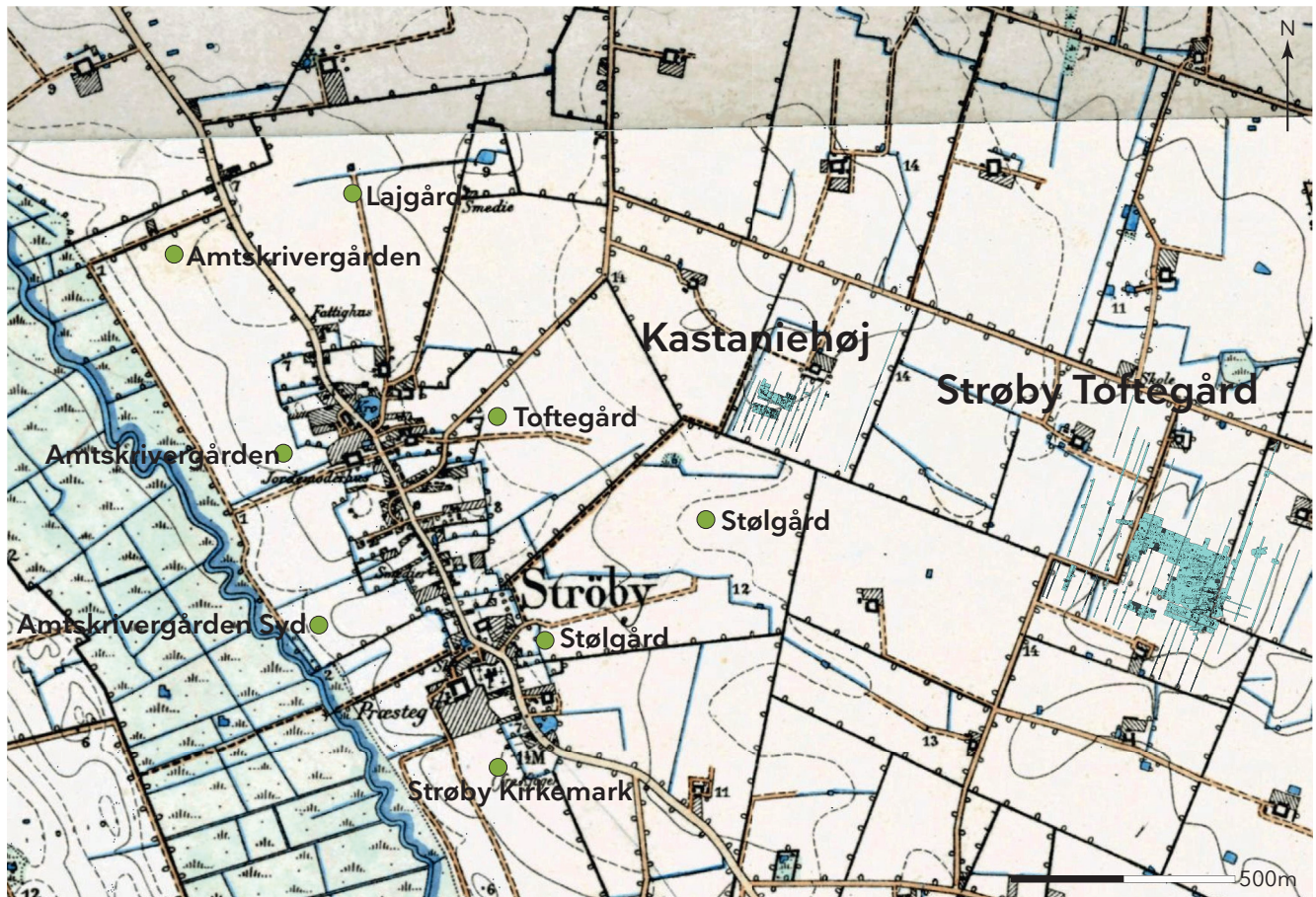


Fig. 14.21. Detailed topographical map (Høje Målebordsblade, 1864–1899) of the village of Strøby. The map shows the winding course of Tryggevælde Å, as well as find spots of late Iron Age items on the eastern side of the stream and the locations of both Strøby Toftegård and Kastaniehøj. Contains data from the Danish geodata Agency supplied by the author. Illustration: Museum Southeast Denmark.



Fig. 14.22. Selected items found at Strøby Kirkemark, spherical weight and a Late Viking Age silver coin. Photo: Jens Olsen, Museum Southeast Denmark.

Hoard

In 1868, a farmer from Strøby found a hoard consisting of 52 coins, primarily from Denmark, but also Swedish, English, Irish, German and Hungarian coins were represented. The coins indicate that the hoard was deposited

after c. 1050, that is, after Strøby Toftegård ceased to be in use. The information about exactly where this find was made is limited to a slope facing a meadowland area (Skovmand 1942, 162). So, it is not very likely that the find was made on the relatively flat lands near Strøby Toftegård. It is more likely to have been found on a hillside onto Tryggevælde Å, as this is one of the few places within Strøby owners guild where a slope runs down into a meadow.

Stray finds

Items dating from the Late Germanic Iron Age and the Viking Age have been found in various places in the vicinity of Strøby Toftegård.

About a kilometre north of Strøby Toftegård, at a site called Garderhøj (SB 050612–84), two dirhams were found. Neither field reconnaissance nor metal-detector searches have resulted in additional finds, and no archaeological excavations have been carried out.

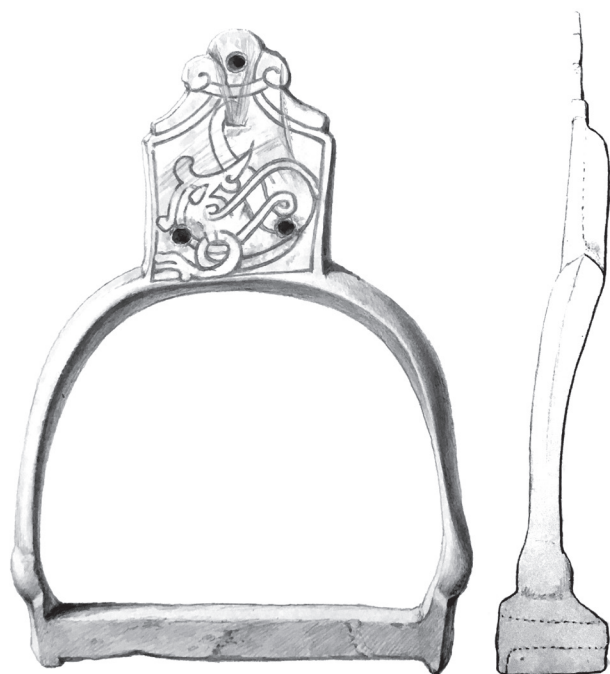


Fig. 14.23. Drawing of a Late Viking Age stirrup. It was purchased at an auction around 1900 but is thought to originate from a burial mound near Strøby Egede. With courtesy of Nationalmuseet.

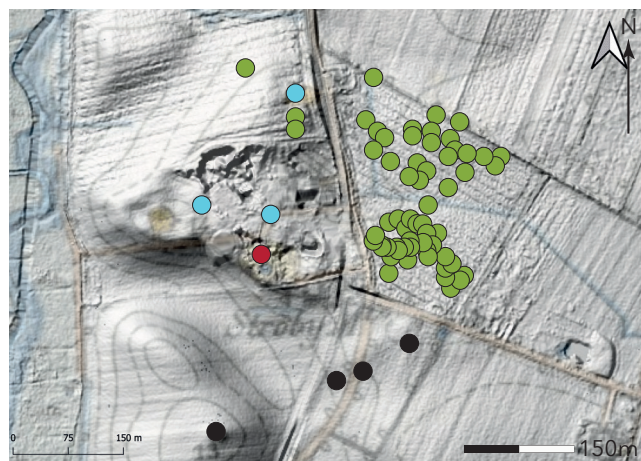


Fig. 14.24. Overview of burials (red dot: Stone Age, blue dot: Iron Age, black dot: undated) and stray finds (green dot) at the site of Aulebjerg. By far most of the items are from the Late Germanic Iron Age, but older as well as younger items are found on the site. Background map transparent LiDAR over detailed topographical map (Høje Målebordsblade, 1864–1899). Contains data from the Danish geodata Agency supplied by the author. Illustration: Museum Southeast Denmark.

It can therefore not be determined whether the coins were accidentally lost or whether there was a settlement at the site of the finds.



Fig. 14.25. Photos of selected items from Aulebjerg (SB 050612–111). Within a few years, a number of artefacts from especially the Late Germanic Iron Age were found at this site. Photo Jens Olsen, Museum Southeast Denmark.

Recent metal-detector searches of the areas around the village of Strøby have unearthed finds from the Late Iron Age within a fairly sizeable area. To the east of the village, a few hundred metres south of Kastaniehøj, the site of Stølgård (SB 050612–99) has thrown up a key fragment and a stirrup-strap-mount from the Viking Age as well as a bird brooch from the Late Germanic Iron Age. The objects were found on a small elevation in the landscape which shows up on the 1809 Original 1 map with the same high agricultural value as Strøby Toftegård and Kastaniehøj. The same applies to the sites of Lajgård, Toftevang and Leegård, some 1.5–2 km west of Strøby Toftegård, where items from the Late Germanic Iron Age and the Viking Age have likewise been found (SB 050612–102, –108, –113) (see Fig. 14.21).

West of the village, on the tracts bordering onto Tryggevalde Å, items from the Roman Iron Age to the Early Middle Ages have been found at the sites of Amtskrivergården and Kirkemarken. These items include dirhams, brooches and brooch fragments from the Viking Age, as well as a fragment of a late 10th-century sword hilt and brooches from Early Middle Ages (SB 050612–77, –98, –105, –107) (see Fig. 14.21).

Until now only limited trial excavations have been carried out at Amtskrivergården and Stølgård, but taking into account the stray finds, the image of the Late Iron Age around Strøby appears to include several settlements, which were in all likelihood part of the environs of the magnate farm of Strøby Toftegård.

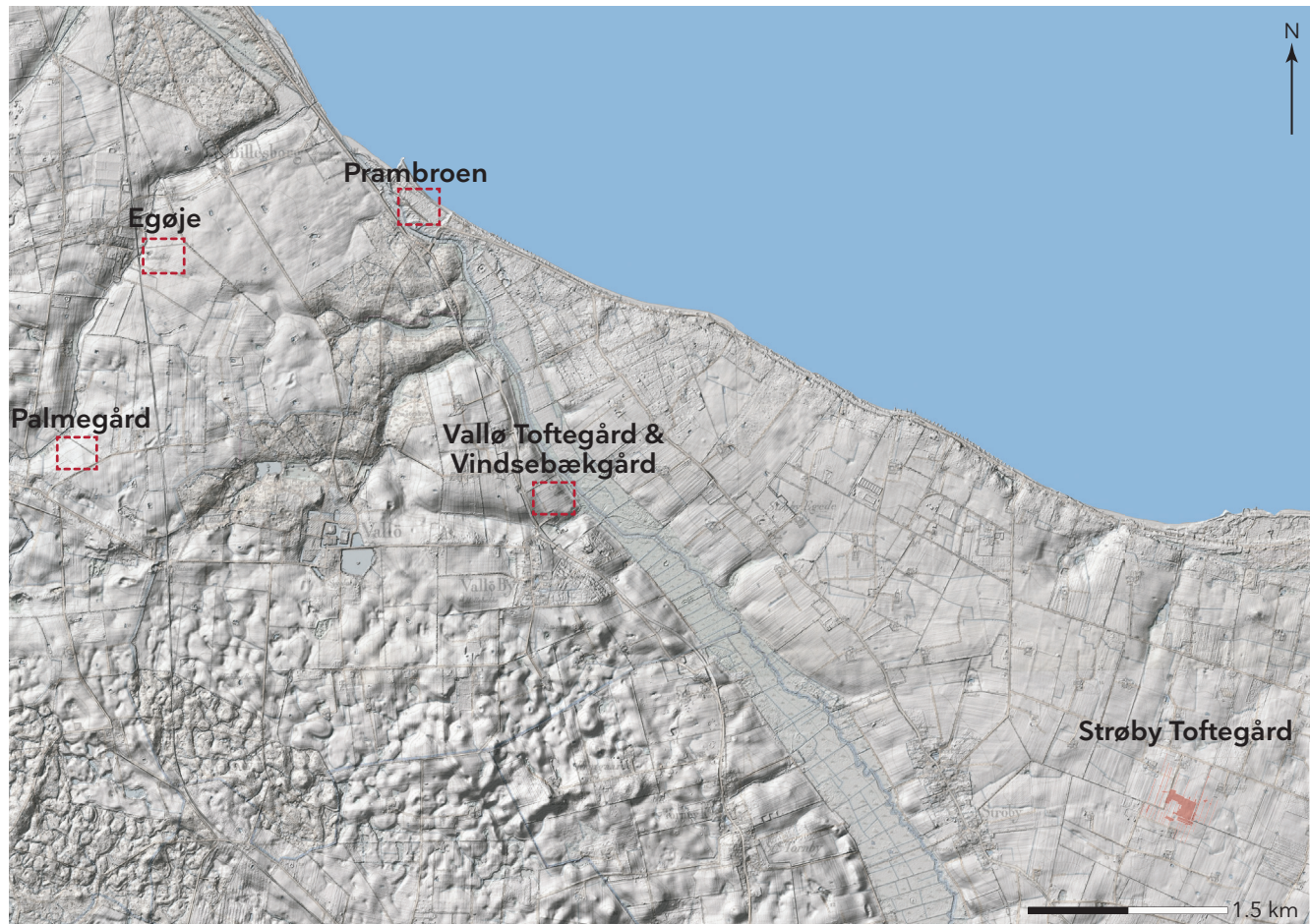


Fig. 14.26. LiDAR map showing localities in the northern part of the investigated area between Tryggevælde Å to the east and Vedskølle Å to the west. At Prambroen and Vallø Toftegård/Vindsebækgård, minor preliminary investigations have been carried out, while stray finds have been collected at Egøje and Palmegård. Contains data from the Danish geodata Agency supplied by the author. Illustration: Museum Southeast Denmark.

Northern Stevns

Near the village of Egøje lies Kaninhøjen (SB 050104–55), which is best known for being a medieval fortification in whose embankment was found masonry of limestone and brick, while a brick-built cellar has been detected east of the embankment (Fraes Rasmussen 2001, 30) (Fig. 14.26). Metal-detector searches of the fields east of the hillfort, carried out since 2013, have, however, resulted in the finds of individual items from the Late Germanic Iron Age and the Viking Age (SB 050104–117). The stray finds suggest that a settlement from the Germanic Iron Age and Viking Age is located east of the fortification, but the extent and age cannot be assessed without further investigation. The fortification and the field where the items were found are situated very close by Vedskølle Å and c. 1.8 km from where Tryggevælde Å empties into Køge Bugt. About 1.5 km south of Kaninhøjen, near Palmegård (SB

050104–68), an early oval brooch from the Late Germanic Iron Age was found. No further investigations have been carried out.

North-east of Kaninhøjen lies Prambroen, which today is northernmost crossing of Tryggevælde Å. In 1948, a number of substantial wooden poles were found here – perhaps from a bridge (SB 050104–89). The wooden poles could not be dated but were described as being ‘of significant age’. The crossing by Prambroen is known from the Late Middle Ages (Hansen & Nielsen 1979, 109), but it is uncertain whether there was a crossing here prior to that. Yet, other crossings of Tryggevælde Å do have a long continuity in terms of their locations and it is possible that this is also the case here. In 1940–41 pottery sherds of Baltic Ware were found in the stream near Prambroen, and this would seem to indicate that there was some activity in the area during the Viking Age. In order to test whether the pottery originated from



Fig. 14.27. Trial trench at Prambroen. Thick layers of deposits can be seen here, although only very few objects were found, so this is probably an expression of the changing courses of the stream near its mouth at Køge Bugt, rather than of settlement waste. Photo: Museum Southeast Denmark.

a landing site, Køge Museum did a small, trial excavation in 1993 (SB 050612–79) (Fig. 14.27). Over a stretch of c. 600 m, covering the area north-east of Prambroen, 27 small trenches of investigation were plotted (1.5 m × 1.5 m), but only the plots closest to Prambroen yielded a small number of artefacts, that could not be linked specifically to the Late Iron Age. The area was affected by the changing courses of Tryggevælde Å, and the small, preliminary study was thus not able to explain where the many sherds found during the clearing in 1940–41 come from. Whether there was a crossing or a landing site at Prambroen during the Viking Age thus remains uncertain. One possibility is that the ceramic remains come from a coastal site on the western side of Tryggevælde Å. The objects from Kaninhøjen show that there was some activity in the area during the Late Iron Age, and it must be assumed that it was important to be able to control the mouth of Tryggevælde Å, especially if the stream was navigable over a stretch reaching into the land, as the finds from near Valløby suggest.

Near Valløby, some 2.5 km from where Tryggevælde Å empties into Køge Bugt, we find the sites of Vindsebækgård (SB 050111–42) and Vallø Toftegård (SB 050111–39). The distance between these two sites is just 250 m, and both have revealed items that cover a significant timespan, from the Roman Iron Age until the Middle Ages. Tryggevælde Å has a relatively wide and straight course until it reaches Valløby, and it is conceivable that the stream was navigable up to this point (see Figs 14.10 and 14.26).

The site is naturally delimited by low-lying areas to the north and west, by Tryggevælde Å to the east and by a stream to the south. In 1990, 1993 and 1994, Køge Museum conducted a number of minor trial excavations from the higher areas down towards Tryggevælde Å.



Fig. 14.28. The excavation in connection with the preliminary investigation of Vallø Toftegård. The profiles of the three trenches contained cultural layers featuring Viking Age pottery. Photo: Museum Southeast Denmark.

In three of the trenches at Vallø Toftegård, it was possible to discern cultural layers from the Viking Age, containing pottery, bones, wood shavings, worked pieces of wood, fascines and rammed-down posts. The cultural layers went all the way into the river valley, reaching the banks of the current watercourse, and the many wood shavings indicate that there was workshop activity linked to a shipyard here (Fig. 14.28). The dating of the activities is based on Baltic Ware pottery from the 10th and 11th centuries.

At Vindsebækgård, which is situated immediately north of Vallø Toftegård, Køge Museum conducted a minor trial excavation in 1990, which resulted in finding features and postholes, as well as preserved, pointy poles. No definite structures have been discerned, but this is probably linked to how limited an area has been investigated.

Vallø Toftegård and Vindsebækgård are assumed to be parts of the same complex – likely a landing and embarkation place for sites further up along Tryggevælde Å, such as Strøby Toftegård, which is placed c. 5 km further south on the eastern side of the stream.

Around the confluence of Tryggevælde Å and Stevns Å

The village of Himlingøje is best known for the rich Roman Iron Age graves excavated on the western periphery of the village (Hansen *et al.* 1995), but metal-detector searches carried out just north of the village have yielded finds from the Iron and Viking Ages (Fig. 14.29). This site is called Nytofte (SB 050105–25) and has thrown up items such as beak brooches and equal-armed brooches, an Urnes-style brooch, as well as several weights and spindle whorls of lead. No further excavations of the site have been carried out, but, given the chronological spread of the items, this is probably a settlement site of significant longevity. This

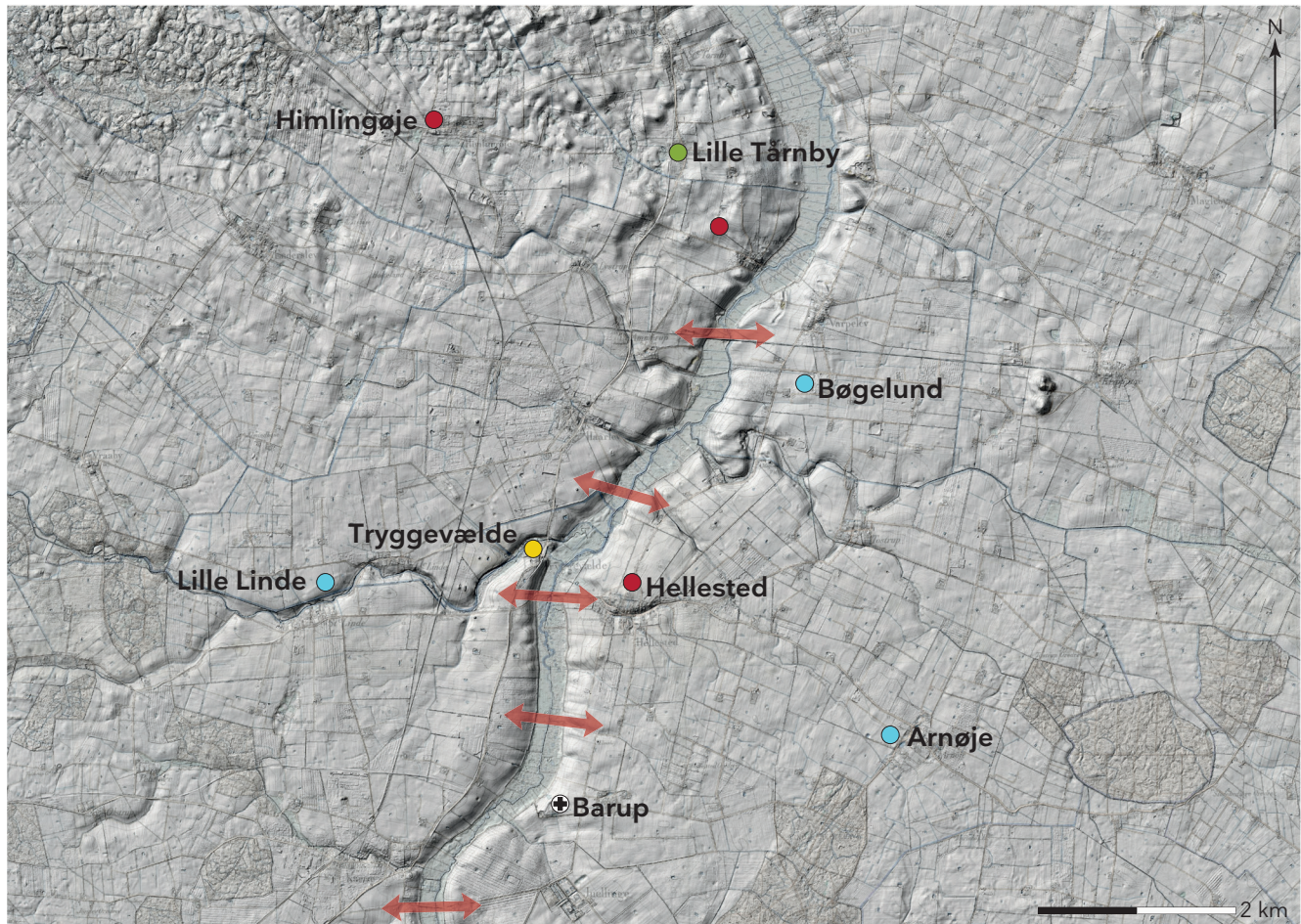


Fig. 14.29. Detailed topographical map (Høje målebordsblade 1864–1899) with transparent LiDAR map showing Himlingøje, Lille Tårnby, Tryggevælde manor and Lille Linde on the western side of Tryggevælde Å, plus Bøgelund, Hellested, Barup and Arnøje on the eastern side of Tryggevælde Å as well as crossings of the river valley (arrow). Red dot represents stray finds, blue dot represents settlements, green dot represents treasure find, black cross burial and yellow dot represent Tryggevælde manor. Contains data from the Danish geodata Agency supplied by the author. Illustration: Museum Southeast Denmark.

could, in fact, be the place where the dwellings that belong with the nearby Roman Iron Age graves are to be found, although the finds there do not have the same opulent character as the items found in the graves (Fig. 14.30).

Individual items from the Germanic Iron Age have been found south of the village of Himlingøje, but otherwise this area has revealed mainly items from the Middle Ages (050105–26).

Today, the settlement of Lille Tårnby is located right on the banks of Tryggevælde Å some 9 km from the estuary in Køge Bugt. During field reconnaissance, Baltic Ware pottery, dateable to the Viking Age or Early Middle Ages (050106–57), was found at Lille Tårnby. North of Lille Tårnby, a hoard (050110–10) was found, consisting of 2253 coins and a few pieces of jewellery, among these a small silver crucifix. The hoard, which was found by a farmer in 1837, as he was digging a trench in a bog

on his lands, was deposited after 1050 (Skovmand 1942, 160–162).

South of Lille Tårnby, the river valley becomes narrower, and this is where the northernmost of the known crossings of Tryggevælde Å is located, dated to the Late Iron Age. An excavation undertaken in 1972 and 1973 consisted of altogether six trenches, and three different practically parallel roads and a wooden bridge were found (SB 050613–13) (Fig. 14.31). The excavations showed that the place was used as a crossing point from the Bronze Age to the Middle Ages, with changing types of roads ranging from brushwood trackways to paved roads and a wooden bridge. The dating of the Iron Age roads ranges from AD 120±100 for the oldest of the paved roads (Varpelev III), to AD 650±100 for the construction of a paved road laid down on top of recycled building timber (Varpelev II). The latest of the crossings is a wooden bridge (Varpelev I) dated

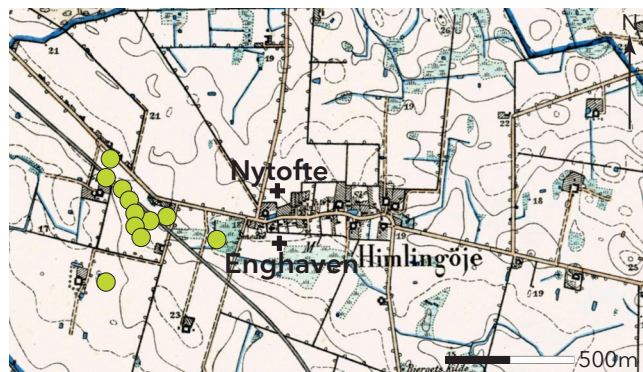


Fig. 14.30. Detailed topographical map (Høje Målebordsblade, 1864–1899) showing, respectively, Nytofte to the north of the village and Enghaven to the south of the village of Himlingøje. Burial mounds are indicated with green dots on the map. Contains data from the Danish geodata Agency supplied by the author. Illustration: Museum Southeast Denmark.

to around AD 1000 on the basis of ^{14}C -dating (Hansen & Nielsen 1979, 101–107).

In 1938, the point of a spear and some substantial wooden poles were found immediately north of the bridge Varpelev I, and these may belong to yet another bridge whose date is not known (SB 050613–12).

Around 100 m west of the crossings, parts of a human skeleton were found in connection with clearing water holes (SB 050106–56). The age of the skeleton parts is unknown, and because of how the skeleton parts were unearthed, there is no precise indication of where the find was made or what the context was.

Whether there was a settlement at Lille Tårnby is uncertain, but the finds of pottery, a spear point and human bones point in that direction.

About 2 km south-east of the crossing, on the eastern side of Tryggevælde Å, the settlement called Bøgelund is located in the parish of Varpelev.

Bøgelund

On the eastern side of Tryggevælde Å, opposite Lille Tårnby, lies the village of Varpelev. Some 650 m south of the village, a Viking Age settlement was excavated over the course of several campaigns during the period 1985 to 1990. This site is called Bøgelund (SB 050613–15) after the nearby farm (see Fig. 14.28 for where it is in relation to Strøby Toftegård).

The site sits on a relatively flat area with a shallow depression to the north and the south. To the west, the terrain slopes down towards Tryggevælde Å, which passes some 500 m away. The field on which the settlement is located carries the name of Gammeltofte. Items ranging from Stone Age to the Middle Ages have been found at the site, but the settlement is at its height from the Late Germanic Iron Age until the end of the Viking Age.



Fig. 14.31. Excavation photo showing the upright posts from the bridge across Tryggevælde Å at Ammerup/Varpelev. Photo: Museum Southeast Denmark.

The settlement probably contains six farms, of which none or at the most two can be contemporary. A couple of the farms have as many as three phases. The settlement has not been completely excavated, and it is estimated to cover an area of about 120,000 m², of which 30,000 m² have been excavated (Christensen & Tornbjerg 2009, 46–51). The site has been dated on the basis of pottery and house typology, and among the excavated structures is a c. 30-m-long house of the Trelleborg type. The pottery is local material from the Early Viking Age and Baltic Ware from the 10th and 11th centuries.

The material from Bøgelund includes ordinary settlement items, such as pottery, sherds of soapstone, spindle whorls and loom weights, as well as various iron items. Keys, nails, scissors, a saw and bronze items such as strap fittings and a twisted finger ring were found. Likewise, traces of artisan work involving antler, blacksmithing and textile production were found. No glass or precious metal was found, and the site differs from Strøby Toftegård both in terms of the items found and the size and number of house structures.

The settlement was founded in the Late Germanic Iron Age and abandoned towards the end of the Viking Age. It is conceivable that the site represents the predecessor of the village of Varpelev, which acquired its current position during the 11th century. This concurs with the latest finds at Bøgelund and the earliest finds (except from the Bronze Age ones) at Varpelev (Tornbjerg 2002).

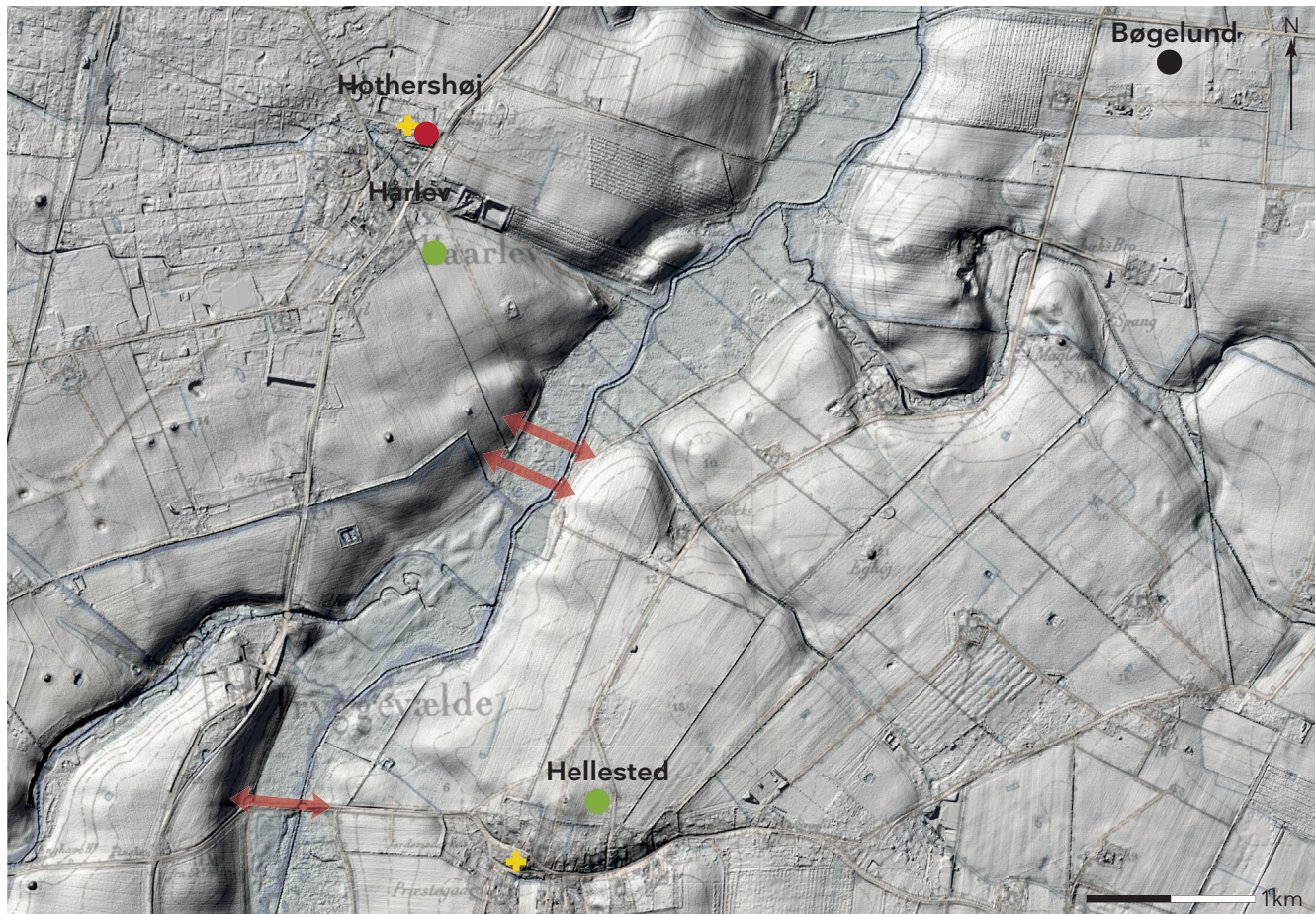


Fig. 14.32. LiDAR map showing Hothershøj (red dot) and Hårlev church (yellow cross), as well as stray finds (green dot) from the Late Germanic Iron Age and the Viking Age on the western side of Tryggevælde Å. On the eastern side, the settlement of Bøgelund is indicated (black dot) together with the church and stray finds from the village of Hellested. Known Iron Age crossings of Tryggevælde Å are also shown (arrow). Contains data from the Danish geodata Agency supplied by the author. Illustration: Museum Southeast Denmark.

Hårlev

On the western side of Tryggevælde Å, just under 10 km from where it empties into Køge Bugt, lies the village of Hårlev. The distance between Strøby Toftegård and Hårlev is c. 5.5 km as the crow flies.

South of Hårlev, Tryggevælde Å merges with Stevns Å, and also the two burns of Sandbæk and Krogebæk run into Tryggevælde Å here. The place constitutes a traffic junction, and in the area around Hårlev, several crossings of Tryggevælde Å and Stevns Å have been studied. The crossing at Ammerup/Varpelev is located north of the village, as mentioned above, and south-east of Hårlev, two roads have been studied, located about 1 and 2 km south of the church, respectively. Both of these are dated to the Late Iron Age, around the 8th century (Hansen & Nielsen 1979, 80).

In the village, just east of the church, lies the prominent grave mound of Hothershøj, which can be associated with the Late Iron Age (SB 050106–8) (Fig. 14.32).

Hothershøj lies only a few metres from the church on the north-eastern outskirts of Hårlev village. Today, the church has the appearance of a Late Gothic church, but it is believed to have been constructed with twin towers, similar to the churches of Fjenneslev and Tveje Merløse, which were built by the Hvide family (*Danmarks kirker* VI, vol. 1, 332–333) (Fig. 14.33). The Hvide family was a noble clan from Zealand, which was very powerful in the Early Middle Ages and owned a great deal of land across Zealand (Johansen & Halding 2001). In 2014, the National Museum carried out corings into Hothershøj with a view to finding dateable material. In a layer containing charcoal located 5.2 m down into the mound, a charred twig dateable to the period AD 420–570 was found (Henriksen *et al.* 2019, 9–10).

Another conspicuous ancient monument linked to Hårlev and Hothershøj is the rune stone known as the Tryggevælde stone (Fig. 14.34). The rune stone is from the 10th century and is believed to have been originally located on



Fig. 14.33. Høthershøj and Hårlev church seen from the south-east. Photo: Ulla Fraes Rasmussen, Museum Southeast Denmark.

Høthershøj, although this placement is disputed. The text on the stone runs as follows: ‘Ragnhild, Ulfr’s sister, placed this stone and made this mound and this ship(-setting) in memory of her husband Gunnulfr, a clamorous man, Nerfir’s son. Few will now be born better than him.’ The inscription continues on the back of the stone: ‘A *ræti* (warlock?) be he who *ælti* (damages?) this stone or drags it (away) from here.’

The original location of the stone (and of the ship setting) is unknown. According to the local minister’s report (*præsteindberetning*) from 1759, the stone was moved away from Høthershøj in 1550 and placed at Tryggevælde manor about 1 km south of the church. However, this information must be taken with a pinch of salt, considering the extensive time gap between the alleged move of the stone and the writing of the report. It is also possible that the stone was originally located on another large grave mound in the area. In 1809, Professor Nyerup and Count Moltke excavating the burial mound Kishøj (SB 050601–4) north of Hårlev, and at the time, they believed, that this was where the Tryggevælde stone originally was placed. Later, in connection with gravel excavation in the mound, items dating from the Bronze Age were discovered. Because the mound is dated to the Bronze Age, Sophus Müller rejected the idea that the Tryggevælde stone should have been originally placed on Kishøj (national archaeological survey of 1872). At least, if that were the case, then Ragnhild cannot be responsible for the mound, as the stone says. But if the dating of Høthershøj to AD 420–570 also marks the burial, then the same problem arises here. Instead, Müller pointed out a grave mound east of Lille Linde as the original location of the Tryggevælde stone. In connection with the national archaeological survey of 1875, he justified this reasoning by reference to the shape and location of the grave mound. Yet, an excavation done a few years later shows that the grave mound is more likely

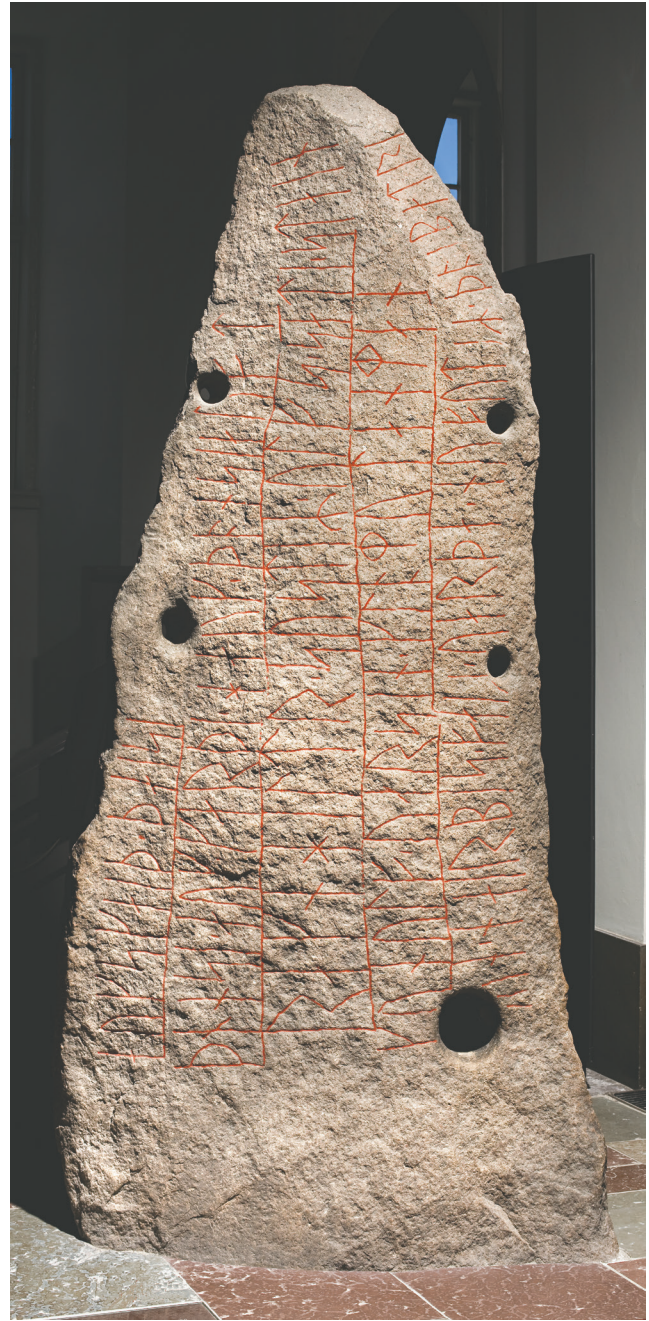


Fig. 14.34. The Tryggevælde-stone. Photo: Arnold Mikkelsen/John Lee, CC-BY-SA.

from the Late Neolithic, with some secondary burials during the Roman Iron Age (SB 050106–29). It is, however, not unusual that older burial mounds were used in the Viking Age as the basis for new burials, as is the case at Klebæk Høje in the parish of Bække, Vejle municipality (SB 190102–55). Exactly the area around Store Linde and Lille Linde has thrown up several items from the Late Germanic Iron Age and the Viking Age (SB 050304–53), and thus it

is not unlikely that a mound near Store or Lille Linde was home to the Tryggevælde stone. Even so, none of the many grave mounds found in the vicinity of Store and Lille Linde is dated to the Viking Age.

The manor of Tryggevælde Hovedgård, which is where the Tryggevælde stone was brought, is known from written sources going back to 1261 (Trap 1995, IV.1, 194). Today, the manor is situated on an elevation delimited by Tryggevælde Å on three sides. Local legends say that the manor was previously located east of the church of Hårlev. J. G. Burman Becker, who was a chemist by trade, but published 'Efterretninger om danske borge' in 1832, presents various arguments for why the manor was previously located exactly there. One of them is that, on the field east of the church, it was supposedly possible to get building material consisting of limestone and bricks. His assumption finds support in two excavations that were carried out in connection with construction work east of the church in 1983 and 1989 (SB 050106–48). Here, traces that possibly stem from an Early Medieval stone house or mill were found. It cannot be determined whether the buildings can be traced back to the Viking Age, but it would be an interesting site to excavate further. The place name of Hårlev is known from 1256 in the form Horlef, and in 1257 as Hornlef, and it refers to a horn or projection in the landscape, and it is thought to refer to 'the inherited estate on the projection' (Jørgensen 2008, 140). The areas between Hårlev church and Tryggevælde Å could be this projection, as also recent stray finds from the fields there suggest. Items from the Late Iron Age were found here, including fragments of brooches, a weight and a fragment of a key (SB 050106–59) (Fig. 14.35).

Taken together, the rune stone, the grave mound by the church and the location near a fairly big watercourse some 10 km from open water all point in the direction of a special settlement. The recent stray finds show that there was some activity here in the Late Iron Age, but the extent and character of a potential settlement are as yet uncertain. Thus, it remains hypothesis only that there may have been a magnate site here during the Late Iron Age.

If we assume, however, that there really was a magnate residence at Hårlev, then it is striking that the distance from Hårlev to Strøby Toftegård is about the same as the distance from Hårlev to the possible landing place at Vallø Toftegård. One possible interpretation is that you could go by ship to Vallø Toftegård, reload your goods into smaller vessels and go via Tryggevælde Å up to Hårlev. Between Valløby and Hårlev, the undulating landscape is shaped by kettle-holes, and it was probably easier to transport goods via the stream. At Strøby Toftegård, it was possible to land on the coast and reach Hårlev over land. Only Tryggevælde Å creates a significant barrier between the two sites, but around Hårlev there are several crossing points that facilitated traffic across the stream.

Hellested

On the eastern side of Tryggevælde Å – c. 2.5 km south-east of Hårlev and c. 6 km south-west of Strøby Toftegård – lies the village of Hellested. This was part of the village studies of Stevns in the 1980s and some Viking Age pottery was found here at that time. Metal-detector searches in the fields north of Hellested have resulted in metal finds (SB 050603–53, SB 050603–44). These finds comprise items from the Roman Iron Age up until the Early Middle Ages (Fig. 14.36).

In roughly the same place, a very large gold ring from the Roman Iron Age (SB 050603–7) was found in the late 19th century in connection with cultivation (see Albris, Chapter 16, fig. 6). The presence of the gold ring indicates, especially combined with the recent detector finds, that Hellested was a special place in the Iron and Viking Ages. Unusual finds of gold are among the find types that are regarded as good indicators of central places of magnate farms from the Iron Age (Fabech & Ringtved 1995, 21). But the nature of the site cannot be determined without concrete archaeological excavations.

Also, at Hellested, roads that can be dated to the Late Iron Age have been excavated in the river valley (Fig. 14.37). Immediately west of the village, several brushwood trackways have been found, of which only two have been ¹⁴C-dated, with results pointing at, respectively, AD 660±100 and 680±100 (Hansen & Nielsen 1979, 95). A paved road from the first half of the 8th century has also been discerned, as has an undated bridge with pointed posts (SB 050304–38).

At the village of Barup, a skeleton was found with an oval brooch (SB 050603–11A) on a small promontory down towards Tryggevælde Å. The grave was discovered in connection with gravel excavation, and the items were subsequently bought by the National Museum in 1926. Some 30 years later, the National Museum excavated a burial site just 100 m south-west of the find spot of the Viking-Age grave. However, only graves from the Roman Iron Age were found here.

In 1971 Køge Museum undertook a survey of the site after a landowner had found large stones at the site. By means of a soil probe rod, a number of rows of stones could be discerned, and a horse bone was found in the plough soil. No proper excavation was done, and so it is not possible to describe the find in any greater detail.

About 1 km north of Barup lies Elverhøjvejen, a road that seems to have been in use from Neolithic times until medieval times (SB 050111–25). Between 2 and 4 m below the ground, traces of simple brushwood trackways from 2880±100 BC have been discovered, as well as a paved road from the Early Iron Age. On top of the paved road, at least five phases of brushwood road can be seen, the oldest of which is dated to AD 800±100. Around 1.5 km south of this place, the crossing site known as Karise I has been

excavated. This, too, was in use over an extended period of time – from AD 230 to 1100 (SB 050304–35) (Hansen & Nielsen 1979).

Along the coast and the central part of Stevns

Along the coast, at a distance of 2 to 3 km from the sea, the historical villages of Stevns are placed with about the same



Fig. 14.35. Fragment of a Viking Age key found between Hårlev and Tryggevælde Å. Photo: Jens Olsen, Museum Southeast Denmark.

distance between each one. In the villages of Magleby (SB 050608–127), Sigerslev (SB 050611–72) and the now abandoned Gjorslev (SB 050604–90), some minor archaeological excavations were carried out in the early 1980s (Fig. 14.38).



Fig. 14.36. Fitting found north of Hellested. The fitting is made of bronze with red enamel inlay and probably originates from the English or Irish area in the 7th century. Photo: Jens Olsen, Museum Southeast Denmark.

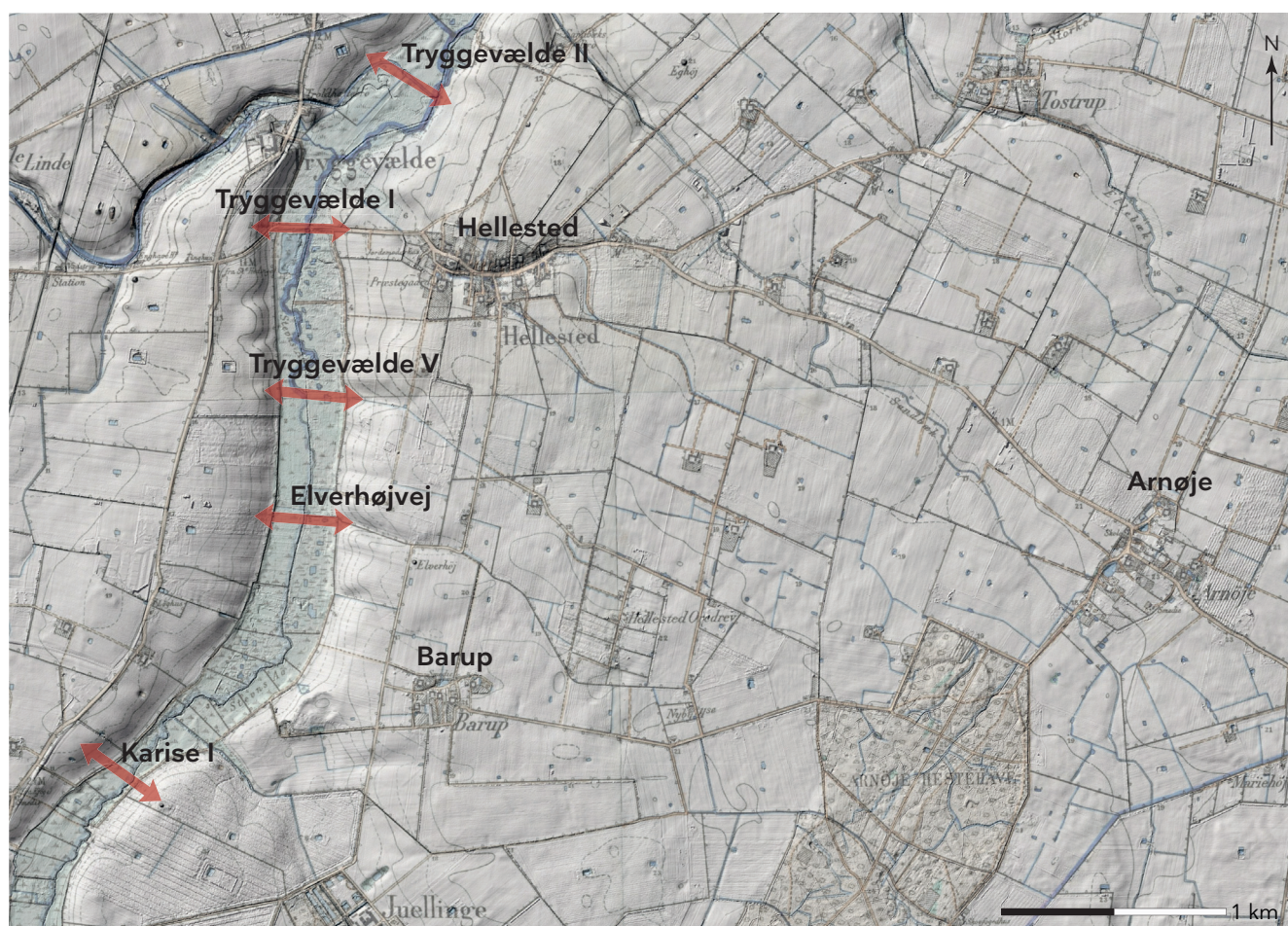


Fig. 14.37. LiDAR map showing the crossing (arrow) of the river valley at Hellested as well as location of sites mentioned in the text. Contains data from the Danish geodata Agency supplied by the author. Illustration: Museum Southeast Denmark.



Fig. 14.38. Map of the villages of Stevns. Viking Age ceramics were found in the villages of Magleby, Hellested, Sigerslev, Holtug, Varpelev, Raaby, Lille Heddinge, Store Heddinge, Arnøje and the now abandoned Gjorslev in connection with studies of villages in Stevns. Contains data from the Danish geodata Agency supplied by the author. Illustration: Museum Southeast Denmark.

In all three villages, pottery from the Viking Age was found, but, due to the modest size of the studies, no houses or other structures were excavated. Only at Gjorslev, a well was excavated and turned out to contain a horse skull, which has been ^{14}C -dated to the mid-8th century (Hedeager 1982; Hedeager, Poulsen & Tornbjerg 1982). It is not possible on the basis of these studies to conclude when the villages were founded or what sort of settlements they were. Even so, the studies indicate that the villages have roots going back to the Viking Age. Similarly, the area around the village of Holtug has in recent years thrown up a number of Late Iron Age items from various sites (SB 050604–87, SB 050604–91).

About 500 m south-west of the village of Arnøje, metal-detector surveys have identified an apparently sizeable settlement, since items ranging from Pre-Roman Iron Age through to the Viking Age have been found (Fig. 14.37). Trial excavation have been carried out on part of the area, showing extensive settlements traces from Roman Iron Age as well as Germanic Iron Age. The find of at least six gold bracteates suggests that this may be a special site (SB 050603–62).

In connection with the abovementioned studies in the historical villages, excavations of the market town of Store Heddinge were also carried out. Since the Middle Ages, this has been the commercial centre of Stevns. These studies did not reveal any house sites or the like, but the oldest layers contained pottery that look like Viking Age ceramics. The few finds indicate that the market town is founded on a site that was also a settlement during the Viking Age, but it has not been possible to deduce anything about the size, structure or time of construction.

Southern Stevns

From the parish of Store Heddinge, only one other find dateable to the Viking Age is known (Fig. 14.39). In the village of Renge, 2.5 km south of Store Heddinge, a trefoil brooch was found in 1940 (SB 050611–42).

In 2002, a trial excavation was done in Lille Heddinge, which revealed a number of three-aisled longhouses. Typologically, these houses are dated to the Late Iron Age, and a Viking Age brooch was found in connection with metal-detector searches a few years later. Further excavations were not carried out as the construction work, that caused the preliminary investigations, never took off (SB 050606–14).

A pendant shaped like a Thor's hammer with a chain (SB 050307–16) was found in a field south of Spjellerup in 1977. Subsequently, two to three grave-like features were excavated, but they contained neither human bones nor items.

A large number of objects from the Late Iron Age have also turned up around the village of Frøslev in recent years. The clear majority of these have come from a field just west of Frøslev (SB 050601–16 and –17). So far, more than 400 objects have come in from this site. Of these, about 150 are dated to the Late Germanic Iron Age or Viking Age. Several of the items are of high quality, and the finds include brooches, fittings, coins, as well as hacksilver. The place name of Frøslev is described by Laurine Albris elsewhere in this publication (Albris, Chapters 15 and 16), and one interpretation of the name may be 'an estate belonging to a lord/ruler'. The many stray finds from the Late Germanic Iron Age and the Viking Age support the understanding of the place name as referring to a special settlement.

The site is situated west of the current village of Frøslev, and the items were found across a roughly 30-ha area, albeit with a concentration closest to the village. Here, the landscape rises to a hilltop of 26 m above sea level, sloping down towards a wetland area to the south (Figs 14.39 and 14.40). At the edge of this wetland area, some 500 m to the west, there is likewise a concentration of objects, mainly hacksilver. To the north and west is a smaller drop, and a number of objects have also been found here. Recently trial excavations have been carried out on part of the area resulting in settlement traces from Roman Iron Age, Germanic



Fig. 14.39. LiDAR map of southern Stevns showing localities discussed in the article. Contains data from the Danish geodata Agency supplied by the author. Illustration: Museum Southeast Denmark.

Iron Age as well as Early Medieval Period. The material that has been found hitherto speaks of a settlement that differs from an ordinary agrarian one. Frøslev is situated c. 5 km north of the southern coast of Stevns and just over 6 km from Stevns Å.

A few kilometres south of Frøslev lie the villages of Havnelev and Lyderslev, which have also thrown up stray finds from the Viking Age in recent years (SB 050602–44 and SB 050607–69). Brooches and coins feature here, too, albeit not as many as at Frøslev.

Between the two sites runs an east–west-oriented watershed, and it is possible that this functioned as a transport corridor and that the settlements are linked to it. No landing places from the Viking Age have been located in the southern part of Stevns, but it is possible that one of the two natural harbours of Lund and Rødvig may have had such a function. Between Lund and Lille Torøje, a few fragments of dirhams have been found (SB 050609–18), but other than that, no certain finds from the period have been made south of Havnelev. At the same time, it must be noted that the extent of the investigation of sites in southern Stevns is somewhat modest, as it is limited to concentrations of stray finds. Even so, it seems clear that, during the Late Germanic Iron Age and the Viking Age, there were settlements also in

the southern part of Stevns, and, judging by the stray finds, some of these were wealthy settlements.

Strøby Toftegård's placement compared to the magnate sites of Tissø and Lejre

If we compare Strøby Toftegård's placement in the landscape to those of other, contemporary magnate sites in Zealand, we find both similarities and differences. It is characteristic of both Tissø and Lejre that they are located inland from the coast, but in the immediate vicinity of fairly extensive water-course systems (Christensen 2015; Jørgensen 2002; Söderberg 2003). One argument is that magnate farms are often located at important traffic junctions, preferably near a large system of streams and inland from the coast (see *inter alia* Fabech & Ringtved 1995, 24; Høilund Nielsen 2014; Rindel 2002; Sindbæk 2005).

Tissø in West Zealand lies c. 7 km from the Great Belt and on the western shore of the 12 km²-large Lake Tissø. The site is located on a ridge which is surrounded by water and wetland areas, so that only a narrow isthmus to the north or a bridge across Halleby Å to the south allows access to the site (Jørgensen 2014, 192; Schülke 2007). Strøby Toftegård is partially surrounded by wetland areas, but not to the same

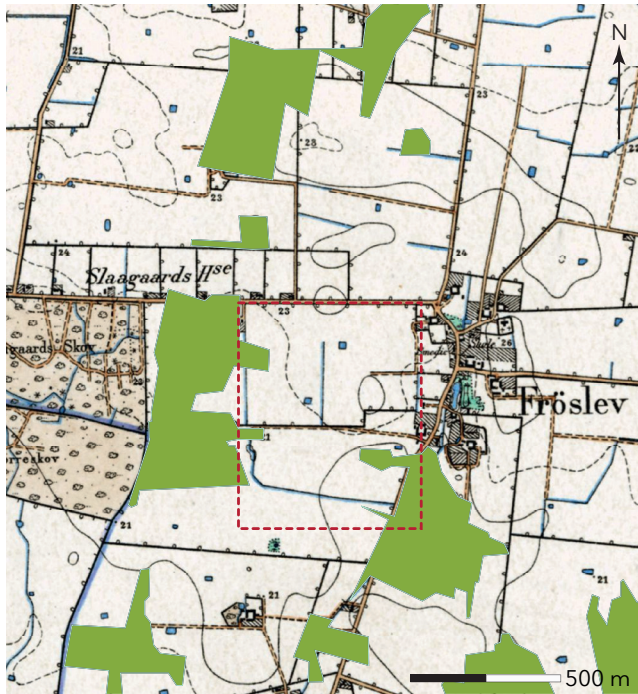


Fig. 14.40. Detailed topographical map (Høje Målebordsblade, 1864–1899), showing the area (red dotted line) with many items from the Late Germanic Iron Age and the Viking Age west of the village of Frøslev in southern Stevns. Wetland areas, as they appear in the Original 1 maps, are included. Contains data from the Danish geodata Agency supplied by the author. Illustration: Museum Southeast Denmark.

extent as Tissø, which almost has the character of an island. Lejre is likewise situated further inland from the coast than Strøby Toftegård is, being 4 km from Roskilde Fjord and even further from the open sea. At Lejre, the landscape east of the site is similar to a plain, whereas the landscape to the west is an undulating kettle-hole landscape. Both Lejre and Tissø appear to be centrally located in relation to their respective natural catchment areas. Strøby Toftegård, on the other hand, seems to have a peripheral location in relation to what must be assumed to constitute the catchment area. It thus looks as if the founders of Strøby Toftegård, unlike those of Tissø and Lejre, chose a location oriented towards the coast instead of a more protected inland area. North of Lejre lies Gevninge at the place where Lejre Å empties into Roskilde Fjord. Here, a settlement has been found, which is interpreted as belonging to the housecarl of the Lejre king guarding the approach to Lejre (Ulriksen 2008). The emplacement of Strøby Toftegård may be interpreted in a similar way, as a place from where the access to and from the sea could be controlled. The settlement at Gevninge is at its height in the 9th and 10th centuries, and so there is a partial, chronological overlap with Strøby Toftegård, but the two sites differ from one another in terms of the

number of houses, as well as their size and the number of items found. This may be due to the fact that, today, there is quite a dense, modern built-up area at Gevninge, unlike the area near Strøby Toftegård. This renders it difficult to determine the extent of the site at Gevninge-Nødager, and only a smaller excavation has been done, revealing only three longhouses and five pit houses, as well as a number of pits. In spite of the limited possibilities for excavation, it is nonetheless regarded as unlikely that the settlement corresponded in nature to Lejre or Strøby Toftegård. Generally, commonplace items from ancient times have been found at Gevninge-Nødager, but a few objects do stand out, such as a fragment of a gilt-bronze helmet and a golden arm ring assumed to stem from the Early Viking Age (Ulriksen 2008, 145–162).

Strøby Toftegård and its catchment area

Our image of the cultural landscape during the Late Iron Age has changed in recent years, as more and more metal-detector finds have been registered. These finds supplement the trial excavations done earlier within the vicinity of Strøby Toftegård (Vindsebækgård/Vallø Toftegård/Kastaniehøj), and the indications are that there were both settlements and other forms of activity across the area between Strøby Toftegård and Tryggevejle Å, as well as by the banks of Tryggevejle Å near Strøby and Store Tårnby. These sites (Stølgård, Leegård, Lajgård, Toftevang, Amtskrivergården and Kirkemarken) show that there were probably a number of more scattered farms around Strøby Toftegård that must have formed part of the immediate sphere of the magnate farm, and that the areas all the way down to Tryggevejle Å at Strøby were home to various kinds of activities. The nature of these settlements and activities is not known, but as the number of stray finds coming in from the village of Strøby rises, the image expands to show that there was some activity in the Late Iron Age here, too, and that the area was already in use by the time Strøby Toftegård was abandoned around the turn of the first millennium.

At the same time, metal-detector finds also show that, in the central and southern parts of Stevns, there are several sites from the Late Iron Age that have not yet been studied. In central Stevns, some sites (such as Hårlev, Hellested and Arnøje) have in recent years yielded a large number of items from the Germanic Iron Age and the Viking Age.

In southern Stevns, a range of metal-detector finds from especially Frøslev and the surrounding villages of Havnelev and Lyderslev likewise indicate that, perhaps, this area was home to a magnate settlement akin to the one discovered at Strøby Toftegård.

The abovementioned metal-detector sites are hitherto known only from items that have been collected as stray finds, whereas the internal organisation, structure and



Fig. 14.41. Items from Frøslev cover a large period of time, the here shown items stem from the Late Germanic Iron Age, Viking Age and Early Medieval Period, but stray finds from the site also includes items from Roman Iron Age as well as Late Medieval Period. Photo: Jens Olsen, Museum Southeast Denmark.

function within and among of the various sites remain unknown. But it is clear that Stevns was home to several large and significant sites during the Late Iron Age.

In this article, I have attempted to describe the landscape of Stevns, as well as the sites we currently know of. But I have also pointed out places that, due to their emplacement, stray finds or local traditions, may be interesting focal points for future investigations.

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Settlement names and field names around Strøby Toftegård in the Viking Age

Sofie Laurine Albris

Abstract

This article is a review of the Viking Age place-name evidence around the settlement at Strøby Toftegård in Stevns, Zealand. Although Stevns is very rich in Iron Age name types, there is an area within the local landscape around Strøby Toftegård that holds none of the oldest settlement name types. Here, we find instead a few very large units named with the suffix -by that were probably formed in the 11th century. Compared to the rest of Zealand, names in -torp are very few and generally seem to be medieval rather than from the earlier part of the torp-period.

A couple of field names near the excavated site at Strøby Toftegård, Salebrand and Snekkemose, may point to activities relating to the Late Iron Age and Viking Age settlement.

Keywords: Place names, Stevns, Iron Age, Viking Age, settlement, landscape

Today, we orient ourselves in the landscape by means of a great number of place names that originate in the Iron Age and the Viking Age, and many of these have become distorted through centuries of use so that they now appear linguistically obscure. If interpreted correctly, these place names nonetheless contain important insights into how places were perceived, defined, organised and talked about in the past (Dalberg & Kousgård Sørensen 1979, 117–120; Albris 2014a, 19–61).

The rich settlement at Strøby Toftegård was active during the Late Germanic Iron Age and the Viking Age, c. 650 – c. 1000. It was located in the northern part of Stevns, which to the west is delimited from the rest of Zealand by the stream Tryggevælde Å. In this article, the Viking Age settlement names and relevant field names in the immediate vicinity of the settlement will be presented. For the purposes of the present investigation, a core area around Strøby Toftegård has been selected, following the landscape along the two

streams of Tryggevælde Å and Stevns Å on both sides (Fig. 15.1, see also Albris, Chapter 16).

Place-name chronology and settlement development

The most common, Danish settlement-name types can be placed into a relative chronology according to which certain endings are thought to have been coined before, during and after the Viking Age (see Fig. 15.2 and e.g. Hald 1965; Christensen & Kousgård Sørensen 1972, 194 ff.; Jørgensen 1977; Holmberg 1996, 56–57; Albøge 2000; Dam 2015). Most types of place names are productive through long periods of time, which means they have very broad chronological frames (cf. Christensen & Kousgård Sørensen 1972, 222–23; and e.g. Grøngaard Jeppesen 1984). The Viking Age is a significant period of settlement history as such, in which many new types of place names appear and, at the

same time, place names increasingly refer to very concrete settlement situations (Albris 2014a, 144–48; Dam 2015, 7).

We know a great deal about many of the Viking Age place-name types, since several of them also occur in areas that were colonised by Scandinavians in this period. This gives us a broader historical and linguistic foundation for

dating and interpreting the names (e.g. Fellows-Jensen 1994). In the Late Viking Age and the Early Middle Ages, a significant settlement expansion occurred in the Danish area which resulted in a large number of newly coined place names. An extremely frequent suffix is *-torp*, which designates an outlying settlement (see e.g. Gammeltoft & Jørgensen 2003), but also *-toft*, *-bøl(le)* and the clearance endings of *-rød* and *-tved* belong mainly to the period 900–1200 (Dam 2015, 7, 302–4). The name element *-by* has traditionally, also on the basis of, for instance, English place names, been regarded as productive from the Early Viking Age up until today (e.g. Jørgensen 2009, 90). Per Vikstrand has argued that some place names ending in *-by* in central Sweden may be from the Early Iron Age (Vikstrand 2013, 31–35). A bit more caution is exercised in the Danish area, but there is no doubt that the name type was productive through a very long period of time. The general dating of *by*-names is based on an assessment of the first element of a given name, while the term *by* in itself is a uniquely Nordic term and may be much older (Jørgensen 2009, 90; Vikstrand 2013, 31–32). New investigations in the Danish area suggest that some *by*-names have their origins prior to the Viking Age, probably in the Late Germanic Iron Age. In his Ph.D. thesis from 2015, Jesper Hansen argues that certain names ending in *-by* were coined in connection with a settlement change in Funen around the year AD 600 (Hansen 2015, 208). In his statistical survey of place-name types and other settlement data, Peder Dam notes that a large number of place names ending in *-by* must be well established already in the Early Viking Age and thus they must stem from an earlier period (Dam 2015, 69, 303). The dating of this name type is important in relation to Strøby Toftegård because there are several names ending in *-by* around here.



Fig. 15.1. The selected locality around the Strøby Toftegård settlement comprises the parishes of Magleby, Varpelev, Strøby, Store Tårnby and Vallø, and the ejerlav of Hellested, Tryggevelde, Hårlev, Ammerup, Lille Tårnby and Lystrup. Map drawn by Anders Pihl.

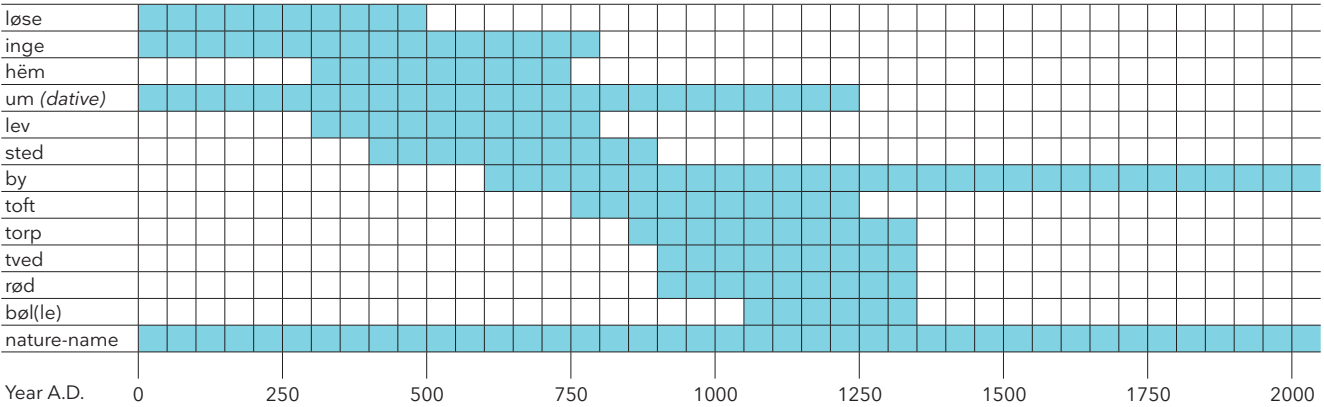


Fig. 15.2. In Danish research tradition, settlement name types are divided into a pre-Viking Age group with the endings *-inge*, *-lev*, *-løse*, *-sted* and *-hēm (>um)*, and a group from the Viking and Early Middle Ages, featuring the endings *-torp*, *-toft* and *-by*. This dating is based especially on philological arguments combined with historical information, such as the occurrence of Scandinavian place names in the British Isles and the status of the settlements in the Middle Ages. Throughout the entire period, non-dateable nature names have also been coined. As the individual name types may have been coined over extended periods of times, the chronological division must be regarded as a set of relative horizons, rather than an absolute chronology.

Settlement names and settlement development around Strøby Toftegård

The place-name situation in Stevn is special. What we find here is a dense concentration of older settlement names, predominantly those ending in *-lev* and *-inge*, but also one example of *-sted*, alongside the name *Stevns* itself, which is originally a name ending in *-hēm* (whereas *-løse* is not at all represented). Here, we also find many names ending in *-høj*, which, according to Lis Weise who put together the place name dictionary *Danmarks Stednavne* for Præstø Amt, have an older appearance (DS 16, XXIV). In contrast, there is no corresponding concentration of younger place-name types when comparing with the general picture (see e.g. the settlement maps in Dam 2015, 73, 78). Many places in the Danish landscape show an overrepresentation of younger name types, but within the investigated area, there are approximately as many place names from older name-layers as there are from younger ones. There are relatively few *torp*-names compared with the rest of Zealand, and the clearance endings *-tved* and *-rød* are almost absent. This suggests that the settlement structure was well developed in the Late Iron Age and that only a minor degree of subdivision of land and new settlement foundations occurred during the transition to the Middle Ages.

Although older name types are densely placed in Stevn, they are not concentrated around Strøby Toftegård itself. Place names of Iron Age types are concentrated in the southern part of the investigated local area and here they are found especially along the streams and towards the boundaries of the locality (Fig. 15.3). The three *lev*-names *Vallø*, *Hårlev* and *Varpelev* as well as a *sted*-settlement, *Hellested*, are located on the east and west banks of the stream, while names ending in *-inge*, with *Klippinge* as the only representative within the locality, are located in central Stevn, further from the coast and streams. There is, thus, an area in northern Stevn where the oldest settlement names do not occur within a radius of c. 3.5 km from Strøby Toftegård. This may reflect some aspects perhaps pertaining to the location of the magnate farm. Since this area contains traces from before the Viking Age, names of older settlements may have disappeared, probably in connection with reorganisations or with the establishment of the Strøby Toftegård settlement.

Place names in *-by*

The place-name vacuum in the immediate vicinity of Strøby Toftegård is filled by a small group of settlement names ending in *-by* (Fig. 15.4). As a name element, *-by* always denotes a settled place (DS 24, 12; Jørgensen 2008, 50). It derives from the verb *at bo*, which means ‘to inhabit (a place), to prepare, to cultivate’ (Hjorth Pedersen 1974, 129–30). Within the *herreder* of Stevn and Bjæverskov,

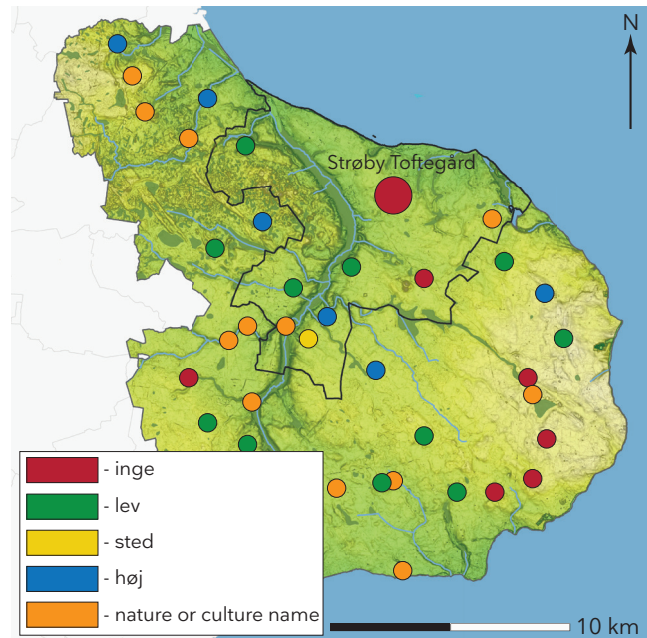


Fig. 15.3. The older name types in Stevn seen in relation to the topography and the selected locality around Strøby Toftegård (large dot). Map constructed by Anders Pihl, data supplied by the author.

the transmission of names ending in *-by* is generally earlier than in the southern part of Præstø Amt, where many are not transmitted until after the Middle Ages (DS 16, XIII). Although they are recorded in the Middle Ages, two out of these five names are nonetheless secondary. The northernmost, *Valløby*, acquired its *by*-ending towards the end of the Middle Ages in order to distinguish between the settlement and the manor carrying the *lev*-name *Vallø*. The southernmost, *Lille Tårnby* (1256 Thornby paruum) in Hårlev parish was established in the Middle Ages as a parcelling out of farms from the neighbouring parish of Store Tårnby. We thus have three *by*-names that were recorded in the Middle Ages and may be older: *Strøby*, *Store Tårnby* and *Magleby*. Opposite one another, on either side of Tryggevælde Å, lie (*Store*) *Tårnby*, (1135 Thornby), whose first element is the noun *torn*, ‘thorn’, and *Strøby* (1336 Strøby), from the Old Danish noun **strō*, f. ‘stream, spring. A number of stray finds and graves from the Roman Iron Age have been found in the fields around Store Tårnby, but no settlement from the Late Iron Age or Viking Age has been examined. Immediately outside the village to the north-east, metal-detector finds from the Late Germanic Period, Viking Age and Middle Ages have been made in later years, and this may reflect an early phase of the settlement (SB 050110–19). There are also Viking and Middle Age finds in the field south of the village and at Stolpehuse, about 1 km south of Tårnby, a Viking Age silver hoard was found (SB 050110–10, 15).

The first element in Strøby must refer to the stream and has the appearance of old linguistic material (DS 16, XXI).

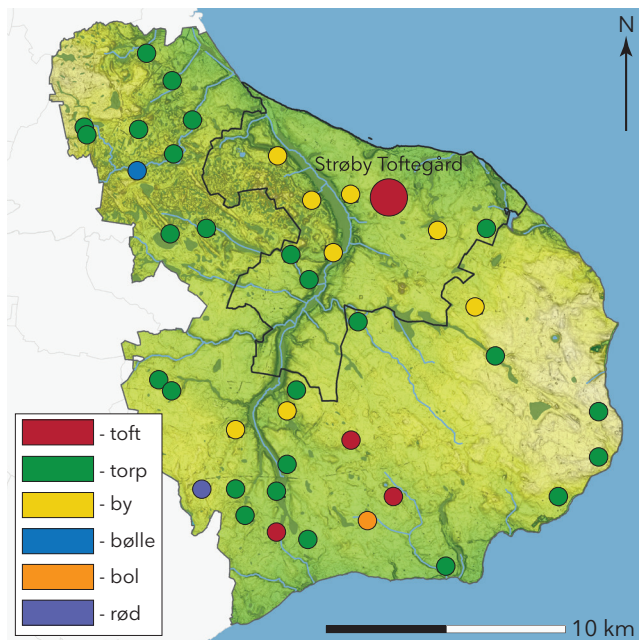


Fig. 15.4. The Viking Age name types in Stevns seen in relation to the topography and the selected locality around Strøby Toftegård (large dot). Map constructed by Anders Pihl, data supplied by the author.

In and outside the southern parts of Strøby village, there are stray finds of Roman Iron Age brooches and traces of Early Iron Age settlement (SB 050612–78, –99, –104). There are several localities all around Strøby village with detector finds from the Late Germanic Period, Viking Age and Middle Ages. The Late Germanic Iron Age finds are rather few, but found at sites both north, south and east of the Strøby village (SB 050612–98, –105, –108). Viking and Middle Age objects were found at the same sites and several more. Of these, some are merely surface finds (SB 050612–102, 104), while at three locations, limited excavation activities have mainly revealed Medieval settlement (SB 050612–77, –95, –99). The parishes of Store Tårnby and Strøby constitute each their own *ejerlav* (in the 16th century used as a term for the community of landowners within a village, from the 19th century on also referring to the defined topographic area of this community). Strøby is even a very large parish and *ejerlav*. East of Strøby lies the parish town *Magleby* (1346 Maglæby) which comprises the two *ejerlav* of *Klipplinge* and *Sørup* (Søholm). The first element of this name is the Old Danish adjective *makla*, ‘large’. *Magleby* in Stevns is not the largest settlement in the area at the time of the 1682 cadastre (DS 16, XXI), but the name likely reflects that, at the time when the name was coined, it was relatively large in comparison to the surrounding settlements. *Klipplinge* (1395 Klypppyngæ) is derived from a word meaning ‘lump’ and probably refers to the hilly landscape formation of *Klipplinge Bjerger*. This name is typologically older than *Magleby* and possibly

reflects an older hamlet or settlement area which, at the time when parishes were formed, was included in the parish of the name typologically younger *Magleby*. Around *Magleby* too there are scattered finds from the Roman Period in the fields, but in the village, pottery from the Viking and Early Middle Ages has been found (SB 050608–127).

Just outside the local area of Strøby Toftegård, we find more *by*-names. South-east of *Magleby* lies *Råby* (1363 Raby), which contains the Old Danish noun *rā*, f. ‘stake, border post’, or the animal name ‘*rā*, ‘roe deer’. In the village itself, Baltic Ware has been found (SB 050604–89). *Råby* lies in the parish of *Holtug* (1261 Holtohæ), ‘forest hills’, which is also where the manor of *Gjorslev* is located. To the south, on either side of *Stevns Å*, we find *Gammelby* (1358 Gamblæby), ‘the older settlement’, and *Valby* (1256 Wolby), whose first element is the noun *wall*, ‘plain, pasture’. Both of these place names testify to later restructuring. It is implied in the name *Gammelby* that it is older, relatively speaking, and may indicate an earlier location of, for example, the parish town of *Karise* or the neighbouring town of *Alslev* (DS 16, 86), but there are no finds from the area around the town. The village of *Valby* was abandoned prior to 1686 and, before that, it was also the name of the manor of *Valdbygaard*, later *Juellinge* (DS 16, 70–71). There are Viking Age finds from near *Stevns Å* 500 m north of the manor, where there was a medieval fortification.

As mentioned, it is possible that some names ending in *-by* were coined before the Viking Age. When this paper was first written in 2016, there were no finds to indicate that the *by*-settlements of the area had their roots in the 7th century, but this has changed with the metal-detector finds of later years where finds from the Late Germanic period have appeared at sites in and/or around *St. Tårnby* and *Strøby*. It must, however, be remarked that these finds are still few and that no settlements have been excavated, so this phase of settlement still appears unclear. The first elements of the investigated *by*-names have rather typical contents that do not reveal much about their absolute age or societal conditions. It must simply be assumed that *Magleby* was, at some point, relatively large. The name *Strøby*, ‘the town by the stream’, implies a location near the stream, which the historical village has. It is therefore unlikely that this name was applied to the magnate farm at *Toftegård*. The archaeological site has been given the name *Strøby Toftegård* for purely administrative reasons (see also Beck, Kildetoft Schultz & Tornbjerg, Chapter 1).

It is not possible to discern what the exact relationship is between *Strøby Toftegård* and the village of *Strøby*. It is, however, noteworthy that *Strøby Toftegård* is centrally located within *Strøby ejerlav*, which may thus have its roots in a unit that was established with the Viking Age settlement as its centre (Hansen 2015, fig. 62).

Younger settlement names: *torp*-formation

The place-name element *-torp*, now commonly rendered as *-rup*, *-strup* or *-drup*, usually denotes a settlement that moved out from a larger village (Hald 1965, 141; Lerche Nielsen 1997, 81). As mentioned, these place names are formed mainly in the period c. 900–1200 (Dam 2015, 77).

This *torp*-formation is not very dominant in Stevns – in spite of the fact that *-torp* is among the most frequent place-name types in Zealand and was, as noted above, part of an important and extensive settlement development in the Late Viking Age. In northern Stevns, around Strøby Toftegård itself, *torp*-formation almost does not exist, although there are a few *torp*-names on the outskirts of the area surrounding the magnate farm (Fig. 15.4): about 4 km to the east, near the medieval manor of Søholm, there was previously a *torp*-settlement named *Sørup* (1346 Syøthorp), ‘the outlying settlement by the lake’. Finds from the Early Middle Ages in the fields east of Søholm may be linked to this *torp* (SB 050608–126). An excavated farm from the Early Iron Age may stand as an example of how many *torp*-settlements practically recolonise areas that had been settled in the Early Iron Age (SB 050608–108, cf. Albris 2014a, 105).

Around 5.5 km south of Strøby Toftegård lies *Tåstrup* (1386/1391 Thorsterp), ‘Thorsten’s outlying settlement’, in Hellested parish, and further east, near Store Heddinge, we find *Bjelkerup* (1366 Byerkorp), whose first element is the tree name *birk*, ‘birch’. West of Tryggevælde Å, in Hårlev parish, we moreover find *Ammerup* (1256 Ammæthorp) and *Lystrup* (1256 Lyutstorp), containing the personal names *Ammi* and *Liut*.

Further away, more peripheral in relation to Strøby Toftegård, we find a few more *torp*-names, of which the majority also contain personal names or bynames (see the interpretations in the catalogue). Placed almost in a row along the south-eastern coast of Stevns lie *Tommestrup* (1387 Tomestorp), *Højrup* (1370–80 Høghethorp), the now lost *Ullerup* (1279 Vglæthorp), described already in 1400 as *eet ødhe thorp*, ‘a desolate *torp*’ and *Højstrup* (1356 Høghstrøp).

Most of the *torp*-settlements, however, are located towards the central part of Zealand, west of the streams and the boundaries of Stevns Herred: along the boundaries of the *herred*, going from the south to the north, we encounter *Snekkelstrup* (1472 Sneckelstrop), *Skuderup* (1503 Skwrrwp) and *Spjellerup* (1302 Spiællerop) in the parish of Vemmetofte, *Tågerup* (c. 1400 Toghorp) in Alslev parish and, furthest west in Karise parish, *Totterup* (1423 Tottorp) and *Olstrup* (1492 Olstorp). East of the streams, we find the parish town of *Smerup* (1310 Smiththorp), ‘the blacksmith’s *torp*’, and *Barup* (1256 Barnæthorp), ‘the children’s *torp*’, as well as the abovementioned *Tåstrup* in Hellested parish.

At the furthest, northern periphery of the investigated area, there is another group of *torp*-names: *Klemmenstrup*

(1351–66 Clemestorp), *Hadstrup* (1350 Hastørp), the now lost *Olstrup* (1366 Olefztorp), *Gunderup* (1421 Gunnorp), *Herfølge Torp* (1484 Hærføglæ torp), *Søllerup* (1351–66 Søllerop) and the also lost *Søllerup Torp* (1498 Søluerupz torp) in Herfølge parish. Furthermore *Poulstrup* (1478 Pouelstrop) and *Aggerup* (1256 Aggæthorp) in Endeslev parish.

In relation to Strøby Toftegård, most of the *torp*-names are located at some distance, either pushed towards the south-eastern coast or on the opposite (western) side of Stevns Å and Tryggevælde Å, towards central Zealand where many parishes are divided into small *ejerlav*. This pattern corresponds to a traditional understanding of *torp*-settlements, which is that, due to an expanding population, they were often pushed out onto more marginal soils (Lund 1984; Dam *et al.* 2003).

West of Stevns, names indicating, for instance, forested or cleared areas combined with present-day forest cover and maps from the Royal Danish Society of Sciences and Letters (*Videnskabernes Selskab*) in 1768–1805 reveal that there was still a certain amount of forest cover by the end of the Viking Age (Dam 2015, 129, 132, 142). Nor do other name types disclose a significant settlement expansion around 900–1200. Clearance names ending in *-rød* and *-tved* are practically absent from Stevns itself. In the investigated area, there is only one such place name: *Bonderød* (1358 Bondæruth) in the parish of Alslev west of Stevns Å. There are similarly few examples of other name types from the Late Viking Age and Middle Ages: *Tessebølle* (1342 Testebola) in Herfølge parish and the vanished village of *Bassebol* (1389 Basse boell) in Smerup parish.

Together, the place names from the Late Viking Age and the Middle Ages in Stevns create the impression that, in the period 900–1200, subdivision of cultivated land, settlement expansion and moving out from the established settlements was not as intensive a development here as elsewhere in Zealand. There are, moreover, indications that some *torp*-names were coined late in this period: *Tommerup* at the easternmost tip of Stevns as well as *Klemmenstrup* and *Poulstrup* in Bjæverskov Herred all contain Christian personal names. Also, the personal name *Olaf*, which occurs in *Olstrup* in Karise parish and in the vanished *Olstrup* in Herfølge parish, is not used in Danish until the Middle Ages (Jørgensen 2009, 97). The name of the vanished settlement of *Søllerup Torp* can also be regarded as a late name which served to distinguish the farming settlement from *Søllerupgård* (Jørgensen 2009, 100).

Magnate farms, territories and *torp*-formation

As mentioned, there is a sizeable area in northern Stevns, around Strøby Toftegård, where older settlement names do not occur. Nor are there any older nature-related names functioning as settlement names within this area, and there

are hardly any *torp*-names. On the other hand, the few extant name carriers constitute rather large units. Especially in northern Stevns, the *ejerlav* are rather large, among these Strøby parish where the Strøby Toftegård settlement was located in the Germanic Iron Age and the Viking Age (Christensen & Tornbjerg 2009, 51–52). The large, almost unsegmented areas indicate that special conditions applied along this northern stretch of the Stevns coast and the eastern bank of Tryggevejle Å. This may be an old domain that included both the magnate farm and the historical village, or even all three units carrying *by*-names, but, having said that, the *ejerlav* of Stevns generally are large. The absence of older settlement names in the vicinity of Strøby Toftegård concurs with the picture of other magnate farms and central-place areas. Similarly, Gudme in Funen and Boeslunde in western Zealand feature an absence of pre-Viking Age name types within a certain radius (Albris 2014a, 98–113; 2014b, 21–24). In the case of Gudme, this is a radius of 8 km. This may be because a large settlement or farm occupied a specific territory during a decisive period, so that older name types were eradicated.

Strøby Toftegård and Stevns nonetheless stand out in comparison with other magnate territories in terms of the (relatively) meagre and late extent of parcelling out and founding new settlements that is reflected in, for example, *torp*-names. In an earlier investigation, I noted 13 *torp*-names within a radius of 5 km around the rich settlement area around Boeslunde in south-western Zealand (Albris 2014a, 111–113). Likewise, within 5 km of Gudme in Funen, there are 11 *torp*-names in the area, which is otherwise devoid of older name types (Holmberg 1996, 59–60; Jørgensen 2009, 332–33; Albris 2014b, 23–25). An intensive formation of *torp*-names is also evident around the magnate farm at Tissø and in western Zealand in general, as well as around Uppåkra in Scania (Anglert 2003, 133).

While *torp*-names in marginal areas can be interpreted as the colonisation of hitherto uninhabited and uncultivated lands, the existence of many *torp*-names within activity-dense areas is perhaps more likely evidence of a restructuring of existing settlements (*cf.* Dam *et al.* 2003; Lund 1984). A division into outlying settlements or *torps* in such areas may be an expression of a fragmentation of the territories that central places or magnate farms controlled (Lihammer 2003, 80–99). As Erland Porsmose has shown, *torp*-formation in densely settled areas may also be the result of a decentralisation arising from intensified agricultural activity with new production methods (Porsmose 1987, 68–74).

It seems that, at the transition to the Middle Ages, there was *no* such parcelling out and dividing up of the central settlement areas in Stevns itself, but simply a late establishment of outlying settlements in the most marginal locations. This means that, when the settlement at Strøby Toftegård was abandoned or moved around the year 1000,

this was not associated with as significant a segmentation of the area as in many other places. There seems to be a restructuring of the settlement, which is presumably linked to the *by*-name, but its fundamental territory or resource area appears to remain intact.

The picture of the meagre extent of segmentation and/or *torp*-formation in Stevns compared with the central and western parts of Zealand is supported by the size of the villages in the cadastre of 1688, where the tax is estimated in units of *hartkorn*, which is a land valuation system based on estimated productivity. Peder Dam has calculated that, in 1688, an average Danish settlement would consist of 4.7 farms with 28.9 units of *hartkorn*, but that Stevns Herred has the highest national average, with 16.4 farms and 135 units of *hartkorn* on average (Dam 2015, 17–18). This may be because the settlement of Stevns, given the region's fertile and easily accessible agricultural land, was well established and well developed at an early point in time. Stevns moreover deviates from the rest of the former Præstø Amt in that the areas covered by settlements named with both *-by* and *-torp* are rather big (DS16, XV). Although the *torp*-settlements in Stevns are, relatively speaking, smaller than the villages with older name types, they are nonetheless big when compared with the *torp*-settlements in the rest of Præstø Amt and with the national average.

A restructuring of the settlement, then, is more likely reflected in the *by*-names. The very large *ejerlav* belonging to these names indicate that the names do not represent newly established settlements or ones that have split off from others, which is what many *torp*-names do. Rather, they should be seen as representing a new phase of settlement. Bent Jørgensen is of the opinion that names ending in *-by* should be interpreted as a kind of tightening up of the settlement situation, such as mergers or relocations, that resulted in new names (Jørgensen 2009, 94–96). Such a situation seems likely here. It may be possible to deduce some aspects of when and how such restructuring occurred by scrutinising the field-name material.

The name element *-toft* and possible older settlements

A good indicator of older, lost settlements is field names containing the place-name element *-toft*. The name element *-toft* is thought, on the basis of linguistic contents and pre-Christian personal names as first elements, to have been active already in the Germanic Iron Age (DS 17, 2.2; Gammeltoft 2001, 18–20). Peder Dam's statistical analyses, however, indicate that, generally, *-toft* stems from the Late Viking Age and the Middle Ages, but that the oldest settlements in this name-type group are found in Eastern Denmark (Dam 2015, 82–83).

In south-western Stevns, there are two settlement names ending in *-toft* transmitted from the Middle Ages and whose

first elements are personal names with an older appearance: *Vemmetofte* (1356 Væmætoftæ), genitive of the Old Danish man's name Wæmund, and *Lejestofte* (1387 Legestoftæ), the Old Danish man's name *Lēkir. In several places there are, moreover, *tofte*-names that are only recorded after the Middle Ages and must have been field-name material that ended up functioning as farm names: In Endeslev we find *Bastofte*, in Store Heddinge we have *Bækkeofte* and *Bytofte*, in Havnelev is one called *Boestofte* and in Lyderslev the peculiar name *Kongetofte*, MB 1682 Kongens Tofft, 'the king's toft' which must stem from the *toft* having a past as royal property.

The meaning of *toft*, both as a word and in place names, is 'an area for settlement'. In Denmark, it may designate both the built-up area of a farm and the fields located in the immediate vicinity of the farm or town (Holmberg 1946, 104; Gammeltoft 2003, 44; Jørgensen 2008, 298). It is therefore common in field names, and the element is extremely frequent in field names in Stevns, in both the 17th-century cadastres and the maps produced with the agrarian reforms in the 18th and 19th centuries. In connection with the present investigation, a study of the field-name material in the field-name records in the cadastre of 1682 and the O1-maps from the late 18th and early 19th centuries has been conducted. The field-name material in these sources is commonly thought to have its roots in the Middle Ages (Jørgensen 1984). It is therefore limited how much information it may contain about older times. The field names may contain indications of lost settlements, but they do not necessarily tell us what a settlement was called.

Field names containing *-toft* do not necessarily indicate old settlement, but when they occur in places that do not border onto existing settlements, they may reflect a recollection of abandoned or relocated settlements (DS 25, 16). At *Nytofte* in Himlingøje, for example, a detector site with items from the Late Iron Age, Viking Age and Middle Ages has been found (SB 050105–25).

However, it is especially the name type *Gammeltoft*, 'the old toft', that has turned out to have a high frequency of settlement traces from Germanic Iron Age, Viking Age and the Middle Ages (Dalberg & Kousgård Sørensen 1979, 34; Grøngaard Jeppesen 1984, 164; Porsmose 1987, 45; Holmberg 1996, 53; Nielsen & Tornbjerg 1987). These *gammeltoft*-places thus hold a local memory of an abandoned settlement preserved in place names.

The investigation has not turned up any *gammeltoft*-names within the *ejerlav* of Strøby itself, but there are a few other *gammeltofts* in nearby parishes. In Magleby, the field-name records of 1682 mention: *Gamble Toffter i Warpeløf Marcken*. But since this is not mentioned in the agrarian-reform maps, it is difficult to localise it.

In Varpelev parish, Helstemarken, the 1682 field records reveal two *Gamble Toffte*, in the cadastral map of 1799 *Gammel Toft*. On the basis of this name, a sizeable settlement

area from the Roman Iron Age and, especially, the Viking Age has been found and examined (Christensen & Tornbjerg 2009, 49). In the village of Varpelev, settlement traces from the Middle Ages have been studied, but no pottery was found that was older than the 11th century. In Varpelev, we also find the name *Torpenhøj*, cadastral map 1799 *Torpen Høj Agre*, which may testify to the former existence of a lost *torp*-settlement here. Also, in Hellested parish, under Tåstrup Bys lillemarck, we find a *Gammeltoft* recorded in the field records of 1682.

The field-name material for the parishes within the vicinity of Strøby Toftegård thus support the notion about settlement changes. *Gammeltoft*-names may be expressions of restructuring of settlements from the Germanic Iron Age or the Viking Age – or they may reflect farms from the Early Middle Ages that were abandoned. In Strøby parish itself, no *gammeltoft*-names have been identified, but the very name Toftegård is an example of how other *toft*-names can also help us locate former settlements.

The place name situation in Strøby parish and *ejerlav*

Strøby parish is, as mentioned, a large parish which also constitutes a single *ejerlav*. Strøby village is the only historically known settlement within the *ejerlav*, but there are several archaeological sites from both the Early and Late Iron Age and from the Viking Age. In contrast to the general picture of *ejerlav* in central and eastern Zealand, Strøby features several contemporary settlements in the Late Iron Age (Christensen & Tornbjerg 2009, 51–52): Strøby Toftegård is active from the 7th century until the late 10th century, and at Kastaniehøj a little further west, there are detector finds from the Late Germanic Period and the Viking Age up until the 14th or 15th century. Excavations here in 2000 and 2016 revealed a relatively large settlement dated to the Late Germanic Iron Age and the Viking Age (SB 050612–80). Additionally, there are stray finds from the northern part of the parish at Garderhøj and near the coast, and there are traces of a possible landing place at the mouth of Tryggevalde Å. As described above, several finds from detector sites in and around Strøby village from the Late Germanic Iron Age, the Viking Age and the Middle Ages have emerged since I finished this survey in 2016, and these have complicated the picture. It is always difficult to estimate to what extent detector finds reflect settlement or other kinds of activities. It is clear, however, that there was a high level of activity in the area around Strøby village and Strøby Toftegård from some time in the 6th or 7th century although excavations have mostly revealed settlements from the 11th and 12th centuries (see also Christensen & Tornbjerg 2009, 52).

How does this picture fit with the place-name situation? As mentioned, the first element in the place name Strøby

is the Old Danish noun **strō*, ‘stream, spring, from the Germanic *straiuō*. Here, the word is presumably an earlier name of the stream or just an appellative that refers to Tryggevælde Å (DS 16, 67). The name thus fits the location of the historical village near the mouth of the stream rather well, whereas it does not really fit the sites of Strøby Toftegård and Kastaniehøj, both located centrally in the parish. With this in mind, we can assume that the name *Strøby* must have been coined in connection with the establishment of a settlement near the stream. We may have a scenario where a resource area around Strøby Toftegård was filled with many subordinate settlements, already in the Early Germanic Iron Age. Of these, *Strøby* was given its name due to its location by the stream. The settlement at Kastaniehøj can be seen as a satellite settlement too, and ca. 1.8 km to the south at Aulebjerg, yet another one may have been located (SB 050612–111). For the latter two, we do not know of any possible original names. It may be that Strøby village was the one out of many satellite settlements that survived to have its name recorded.

In order to clarify whether any place-name material can be attached to the settlement areas at Strøby Toftegård and Kastaniehøj, the field-name material of the parish has been scrutinised. On the site where Strøby Toftegård has been excavated, we encounter the field name *Toftehøj* (Fig. 15.5) (1682 Lille/Store Toffthøys Agers Aas, 1797 Toft Høys Agre), (cf. the name Toftegård which is derived from this). As mentioned, the name element *toft* must, when it occurs independently of any known settlements, be regarded as indicative of settlement (DS 25, 16; Gammeltoft 2003, 44; Jørgensen 2009, 102), and this field name was one of the factors that led to reconnaissance in the area in the first place.

On either side of Toftehøj, we see some interesting field names. North-west of Toftehøj/Strøby Toftegård is the name Salebjerg/Ølsalebjerg (1682 Ølsalbiere Aas, 1797 Ul Sale Biere, undated cadastral map Ulsalebjerg). This field name lies behind the current name *Salebjerg*, which is also the name of a field road on the site. Theoretically, the name

might contain the element *sal*, ‘magnate farm, cult house’, which is a keyword in connection with hall settlements and place name formations linked to central places (Christensen 2010, esp. p. 87). However, this name is more likely a distorted version of the word *ulvshale*, ‘wolf’s tail’, which probably functioned as a term describing a landscape feature. The name *Salebrand*, located east of Toftehøj, (1682 Sallebrands Aas, MK 1797 Sale Brand), however, tells a different story. This name may well contain the word *sal* (Bent Jørgensen pers. comm.). The final element is the noun *brand*, which may refer to ‘fire, bonfire’ (ODS I. Brand 1) or it may mean ‘stake, post’ (ODS II. Brand 2). The same final element occurs in the name *Snekkebrand* on the eastern side of Lake Tissø (Holmberg & Madsen 1998). North of Strøby Toftegård, in the fields bordering onto Køge Bugt, we find some field names containing the word *snekke*, Old Danish *snækkia*, f. This was used in the Viking and Early Middle Ages a designating a particular type of ‘ship’ and, as a name element, it may have been used for monumental ship settings as well as for harbour and shipyard sites. Some scholars have suggested a link between *snekke*-names and the *leidang* or war fleet (Holmberg & Skamby Madsen 1998, 213–2015; Christensen 2010, 93–94). In Strøby, the name forms recorded in the 1682 field record, Snekke Mose Aas, and the 1797 land reform map, Snekke Mose Agre refer to *Snekkemose*, which in case of periods with higher water levels may have been used as a small harbour or a place where ships were hauled up (see Kildetoft Schultz, Chapter 14).

Both the absence of Iron Age names and the large *by*-units suggest mergers or concentrations of the settlement over several rounds within the area around Strøby Toftegård. One suggestion is that the Iron Age names disappeared in connection with building up some kind of estate or central area around the magnate farm itself. In the course of that that, a general restructuring involving the *by*-names Tårnby, Strøby, Magleby, Råby and Valby seems to have occurred. There are stray find indications that some of these villages go back to the 7th century, as is also the case in for example Fyn (Hansen 2015).



Fig. 15.5. Photograph of MK 1797 at the Department of Name Studies, Copenhagen University, with the name Toft Høys Agre to the left, and the name Ul Salebjerg above and Sale Brand to the right.



Fig. 15. 6: The name Snekke Mose Agre in MK 1808. Copyright Danish Cadastre Office.

Thus, the early beginnings of these settlements seem to have followed the early establishment of Strøby Toftegård itself. However, excavations in these villages have mainly yielded material from the 11th century on, indicating that they were not fixed in their historical positions before this point (Hedeager 1982; Christensen & Tornbjerg 2009, 52). In the Stevns area, the *by*-settlements may have their early roots in the 7th century, while a fixation and concentration of settlements seems to occur in the Late Viking and Early Middle Ages. Some of the *torp*-formation seems to have happened fairly late (around 1200 and later).

The relatively simple first elements in the *by*-names that are coined in an already complex landscape of names suggest that the very designation *-by* refers to a kind of characteristic settlement type that must have stood out from the other settlements around them.

Abbreviations

- DS *Danmarks Stednavne* ('Place names of Denmark'). Published 1922 and onwards. Volumes 1–15 published by Stednavneudvalget, volumes 16–24 by Institut for Navneforskning, and from volume 25 onwards by Afdeling for Navneforskning. www.danmarksstednavne.navneforskning.ku.dk
- MB Markbog (land register), 1680s. Groundwork for Christian V's cadastre. Rigsarkivet. København.
- MK Cadastral map from the late 18th to the early 19th century land reforms. Matrikelarkivet. Geodatastyrelsen. København.
- ODS Ordbog over det danske sprog ('Dictionary of the Danish language'). www.ordnet.dk/ods
- SB Number in the topographical parish records at Nationalmuseet/Slots- og Kulturstyrelsen

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Ideology and organisation in the landscape of Stevns in the 1st millennium – in light of a comparative discussion of place names and archaeology

Sofie Laurine Albris

Abstract

*This article discusses the oldest place-name material from Stevns by means of a comparative investigation of archaeological sites considered in a long-term perspective. The purpose is to shed some light on societal and religious aspects of the landscape in the Iron Age and the Viking Age. Stevns has a high concentration of Iron Age place names, which suggests continuity of communication through an extended period of time. On the basis of, for instance, distribution and contents, the suggestion is made that, prior to the establishment of the herred-divisions, the Stevns area was organised in two or three smaller zones of power organised around individual, central localities or complexes. A possible communal gathering point for these zones is pointed out as positioned around Hellested and Tryggevælde. If this holds up, Strøby Toftegård functioned as a kind of sub-centre within the northern zone. Here, a group of names ending in *by* indicate a change of organisation during the Late Germanic Period or Viking Age.*

Keywords: Older place names, settlement history, landscape archaeology, sacral place names, Early Iron Age, Late Iron Age.

Stevns is a peninsula within south-eastern Zealand, shaped like a rounded bow reaching out into the sea, with Køge Bugt to the north and Faxe Bugt to the south, and whose northern part is delimited from the rest of Zealand by the water courses of Stevns Å and Tryggevælde Å. Most of the peninsula is made up of meadow lands and easily accessible agricultural lands. Archaeologically speaking, the Stevns area is remarkable during several periods of the 1st millennium. From the 2nd to the 3rd century, there is a dramatic concentration of rich grave finds, especially in and around Himlingøje, with Roman imports and specially made gold rings, among other things (Lund Hansen *et al.* 1995). The settlement material from these centuries is sparser, but traces of road construction and bridges across the water course

between Stevns and the rest of Zealand testify to contacts that went across the water courses during the Iron Age (Hansen & Nielsen 1979; see Fig. 16.10). In the period c. 650–1000, the magnate farm at Strøby Toftegård north-east of Tryggevælde Å occupies a special position within the area. Generally speaking, there are many settlement traces in Stevns, and especially along Tryggevælde Å, from that same period that may have links to this settlement (see Kildetoft Schulz, Chapter 14).

The graves at Himlingøje and the settlement at Strøby Toftegård are, each in their way, expressions of concentrations of power. However, there are no immediate signs of continuity or close connections between the graves from the Late Roman Iron Age and the rise of Strøby Toftegård

in the Late Germanic Iron Age. Although individual finds and features in the area stem from the Early Germanic Iron Age, the material is too scant to produce a clear picture of what went on in this period (Sørensen 2008, 269; Baastrup, Chapter 7). The purpose of the present article is to involve the place-name material and its relation to the archaeological material with a view to contributing to the overall understanding of the developments of landscape and settlement in Stevns during the 1st millennium AD.

A number of Scandinavian place names contain linguistic material that refers to societal aspects of the past, among these cult and religion (Dalberg & Kousgård Sørensen 1979, 117–120). In Sweden in particular, the patterns and complexes of old place names have played a part in shaping ideas about settlement organisation in the Iron Age and the Viking Age, so-called ‘name environments’ (Hellberg 1975). Stefan Brink, who has also worked on the place-name material around Kaupang in Norge, has used the Swedish name environments as a model for a pan-Scandinavian form of organisation linked to central place complexes (*e.g.* Brink 1998; 1999). Brink’s model of a central place complex forms the starting point for Anne C. Sørensen’s landscape analysis, in which Strøby Toftegård is regarded as the core of a complex that constitutes a central area (Sørensen 2008, 257). This presumed central complex includes, *inter alia*, a possible landing site at the mouth of Tryggevælde Å, a possible shipyard at Snekkemosen, an agrarian site with a landing place and a shipyard at Vallø Toftegård, a possible market site at Kastanjehøj, a larger agrarian settlement, Bøgelund, near Varpelev, the large burial mound of Hothershøj near Hårlev and the rune stone from Tryggevælde (Sørensen 2008, 272–273). All of these localities are relevant in relation to Strøby Toftegård, which was undoubtedly a key locality in Stevns. However, the notion of an organised network of localities surrounding a centre cannot be directly sustained by the place names. By glimpses, the place-name material gives us more nuanced insights into the early organisation of the region, although it is difficult to establish a clear chronology. Localities within a landscape can be regarded as a network of places with different functions that operate on different levels. There can be more than one type of hierarchy between localities and between different networks of places that operate on a variety of scales in time and space (Escalona 2011, 11–13, 16–21). Place names occur at all levels and may represent both an elite and a common view of the landscape, since different naming motifs can arise from the perspectives that different groups of people have on places. As the handing down of place names depends on how wide a circle of people is using them, high-level names, that is, those relevant to many people, are more likely to still be in use today, while many smaller local names have probably disappeared.

Place names are formed and handed down through being used by population groups, and so both their coinage and

their disappearance are sensitive to social changes and discontinuity (Strid 2011, 292; Albris 2014a). Paradoxically, they may survive even very significant changes and thus appear as markers of a kind of continuity or transfer of information through extensive periods of time. Given their precise, local anchoring, they moreover constitute an important source for the cultural landscape: as part of an oral tradition, they represent a view, which is essentially different from the archaeological, material sources, and which is simultaneously independent of the early history writing (Christensen & Kousgård Sørensen 1972, 32–55). You may say that, as the product of a collective communication about places, place names represent a *communally experienced* view of the landscape of the past. The constant addition of archaeological material within the Danish landscape offers new possibilities for how to understand place names as part of settlement development in the past.

Several scholars who have worked on landscapes of power of the Iron Age have favoured the notion that certain localities may have had the status of places of power continuously from the Iron Age through to the royal estates and manors of the Middle Ages (Jørgensen 1995; Nissen Jaubert 2005; Randsborg 2011). Anne Nissen Jaubert notes in her analyses of Stevns through the period from the 3rd to the 13th centuries that there was a remarkable concentration of expressions of power through several different periods, with a particular intensity around Tryggevælde Å. Among other things, she emphasises finds of rich graves from the Roman Period and names ending in *-lev*, but also the aristocratic manors and Roman churches of the Middle Ages, as well as the unusually large villages of the area. In her opinion, this picture is not only a product of coincidences or excavation activities but must be a sign of a long continuity among the elites of this area (Nissen Jaubert 2005, 227, 233; 2007, 145). Although our knowledge about the distribution and organisation of power centres in southern Scandinavia is constantly improving (*cf.* Jessen & Terkildsen 2016; Grundvad & Albris 2020), our understanding of the relationship between magnate farms and their immediate vicinities is still very much on the level of hypotheses (Jørgensen 2001). Did magnate seats influence, control or perhaps even own large tracts of their surroundings (*e.g.* Brink 2007; Carlie 2008, 58; Helgesson 2008, 53; Hårdh 2008, 220–221; Christensen 2010, 242; Holst 2010, 157)? It is doubtful whether we would even be able to delimit such areas, and, in this connection, developments that occurred over extended periods of time and different population groups’ views of the landscape also are of interest (Lihammer 2007, 14; Helgesson 2008, 239–240). Place names thus become important to the question about the developments in the centuries following the graves at Himlingøje, around the establishment and rise of Strøby Toftegård and around the transition into the Middle Ages.



Fig. 16.1. The investigated area in Stevns. Map produced by Anders Pihl.

In the following, the material and methods of investigation will be presented first, followed by a general survey of the settlement development and the relationship between place names and archaeology through adopting a macro-perspective on Stevns through the 1st millennium. After this, the place-name material will be employed in an attempt to shed light on the societal organisation within the area during the Iron Age, supplemented by relevant archaeological circumstances. Firstly, the article will treat selected place names and place-name groups that may reflect conditions predating the foundation of Strøby Toftegård. Secondly, the discussion will focus on aspects that may be contemporary with Strøby Toftegård. Place names and settlement conditions of the period around the dissolution of the magnate farm will be briefly treated, but more detail on this is found in Chapter 15.

The investigation

This investigation of Stevns was part of my Ph.D. project, the purpose of which was to uncover the developments of settlement and landscape around magnate farms of the 1st millennium AD by means of analyses of the relationship between archaeology and place names (Albris 2017). In the study, the different place-name types were seen as reflections of varying types and understandings of localities that form part of the social organisation within a given region. The level of observation spans from the local region (up to 20×20 km) to the developments around each individual

village, but the study does not encompass the level of the individual farm.

Delimiting the area relevant to the study was done with a view to topographical aspects that, on the part of the Iron Age and the Viking Age, must be reconstructed on the basis of, *inter alia*, geology and maps from early modern times (Rindel 2001, 187). A focus area near Strøby Toftegård has been selected for detailed analyses, while the whole of Stevns is included in a more general analysis (Fig. 16.1). The focus area follows the landscape along both sides of Tryggevælde Å and Stevns Å, an area with many Iron Age bridges, and is based on descriptions and analyses by Vagner Hansen and Helge Nielsen (1979), Anne C. Sørensen (2008) and Tom Christensen and Svend Åge Tornbjerg (2009).

The analysis is based on a GIS-map of all relevant source material, place-name material as well as archaeology. The archaeological map is based on data extracted from the Agency for Culture and Palaces's database for Sites and Monuments, focusing on sites from the period between 500 and 1250. Qualifying and supplementing this material has been done with a view to Per Ole Rindel and Ulla Lund Hansen's database of sites pertaining to the Iron Age in Zealand, a review of the National Museum's inventories of objects and its archive of excavation records, as well as reading through relevant scholarly literature and online excavation reports. This survey of finds resulted in more additions and also clarifications regarding the nature, location and dates of various localities. Collecting material for the statistical analyses was brought to a close in February 2015, but relevant finds made since then have been included in the discussion.

It must be emphasised that this delimitation of the area under scrutiny, despite taking into account both topography and administrative organisation, remains hypothetical: the area over which the magnate farm was able to exercise its potential power may have been smaller as well as larger depending on factors such as chronological period and sphere of influence. The selected region is of a size that is suitable for the extent of the present investigation.

The place-name material has been gathered using the digital resources and topographical archives of the Department of Onomastics at the University of Copenhagen (today NorS). Especially the field records from the 1680s, maps from the 18th and 19th century field reform (known in Danish as *udskiftningen*) and place-name records from the 20th century have been central sources. Most of the settlement names within the area were interpreted by Lis Weise in volume 16 of *Danmarks Stednavne*, which concerns the names in the former Præstø Amt. The most important place names of the study are the ones that have been handed down through Medieval sources and were thus with certainty coined in the Middle Ages or in pre-Christian times. These have often been recorded in a variety of forms, which makes

it possible to decipher the original meanings contained in the names. Name material that has not been recorded until after the Middle Ages is often not so old and must be treated with caution, but it may still contain older name material that has survived in, for example, field names (Jørgensen 1984). Likewise, it often contains indications of settlements that have disappeared or of finds and functions that may be linked to pre-Christian society. In the process of separating out such name elements, also Lisbeth E. Christensen's list of search words relevant to central places has been an important tool (Christensen 2010).

Name-giving and circumstances of settlement in a long-term perspective

The most common types of Danish settlement names can be placed into a relative chronology, with specific endings thought to have been coined and used before, during or after the Viking Age (see Fig. 15.2 in Albris Chapter 15 and e.g. Hald 1965; Christensen & Kousgård Sørensen 1972, 194–195 222–223; Jørgensen 1977; Holmberg 1996, 56–57; Albøge 2000). Most place-name endings were used through long periods of time and so their dates are very broad. In a new statistical survey of place-name types and settlement groups, Peder Dam has to all intents and purposes confirmed this relative chronology (Dam 2015, 303). There are, however, some indications that several of the name types ascribed to the Viking Age go back to the Late Germanic Iron Age (Hansen 2015, 201–205, see also Vikstrand 2013).

From the place-name material, we can tell that the way in which localities were defined changed over the course of the 1st millennium AD (Albris 2014a, 144–48; Andersson 2015). Generally speaking, the oldest name types are, from a modern point of view, hard to decipher, while the later ones are more simply constructed and easier to comprehend (Jørgensen 2015, 47). The oldest place-name types are often names of areas or are loosely based, and they relate predominantly to the natural circumstances and topography. For instance, the name (Store) Heddinge (1231 Hæddying) is a so-called *inge*-derivation of a word that corresponds to the Old Norse *haddr*, 'a woman's hair', which was probably the name used for the plant tussock cotton-grass (*eriphorum vaginatum*). The derivation ending creates a name that characterises an area but does not delimit or define its category (more examples below). The dates of place-name formations are quite broad, so it is hard to determine exactly when developments within place-name types occur in relation to archaeological periods. But it does look as if, from the 4th century on, we begin to see a few place names where the name givers had in mind societal aspects linked to the place. The way in which personal names begin to occur as the first element in place names is particularly innovative, and the phenomenon becomes especially common in Stevns in several place names ending in *lev*. The Viking Age brings

yet another decisive change, with place names now being used to designate more clearly defined points and concrete settlement aspects, as is especially clear in names ending in *-torp* and in clearance names. We now begin to see settlements lending their names to the topography, whereas it was the other way round previously.

The relationship between place-name formations and the concrete circumstances of settlements has long been a source of discussion among onomastic scholars, archaeologists and settlement historians (e.g. Clausen 1916; Mathiassen 1948; Dalberg *et al.* 1984). An important aspect in connection with this discussion is the tendency among Iron Age settlements to move within the landscape, as was first noted with the studies of Iron Age villages in central and western Jutland (e.g. Hvass 1983). It has become clear that such movement may occur gradually in connection with the erection and demolition of successive farm units, rather than as collective decisions to move entire settlements (Holst 2010, 157–159; Hansen 2015). In the eastern part of the Danish area, settlements seemingly consisted mostly of spread-out farm units that moved gradually in a settlement pattern that alternated between concentration and fragmentation (Christensen & Tornbjerg 2009).

Studies of selected spots centrally located in villages carrying older name types carried out in Funen in the late 1970s were able to show that the villages generally became fixed at their historical sites during the 11th century (e.g. Grøngaard Jeppesen & Porsmose Christensen 1976; Grøngaard Jeppesen 1981, 15–16; 1984; Dam 2015, 302–305). Lotte Hedeager conducted an investigation using the same model for a range of villages in Stevns, reaching a similar result (Hedeager 1982). However, the time at which a settlement becomes fixed is not necessarily the time at which its name is coined (Lund 1984, 232; Grøngaard Jeppesen 1984, 161–164). In his recent Ph.D. project, Jesper Hansen has applied a broader archaeological perspective, including extensive excavations around certain villages, to render it probable that, at least in Funen, this fixing occurs in connection with a significant settlement shift already around 600 (Hansen 2015). It may be possible to discern a link between, on the one hand, this fixing of settlements that occurs in the Late Germanic Iron Age and the Viking Age and, on the other hand, the above-mentioned tendency to name places after aspects relating to settlement, ownership or society (*cf.* Albris 2014a, 144–148). Older name types that refer to topography and natural features may have been transferred to the settlement – or have disappeared – in connection with this process.

1st-millennium settlement in Stevns – a long-term macro perspective

An assessment of the relationship between a place name and the individual village requires extensive archaeological

excavation and documentation of actual buildings. Such evidence is only rarely at hand in the investigated area. Instead, the present study seeks to map the settlement development from a macro perspective with a view to comparing the tendencies that show within archaeology and within place names. Figure 16.2 shows a schematic version of the development of archaeological density within the Stevns area during the 1st millennium AD. The purpose of these maps is to shed light on the changes within habitation density in comparison to the distribution of specific place-name types. The map is made with a method developed by Anders Pihl. They are based on GIS-defined cells of 25×25 m, where each cell has a value given as localities per square kilometre, which has been calculated on the basis of the number of localities within a radius of 2 km from the cell. By comparing the density of finds during two separate archaeological periods, an index is formed which shows whether the density of finds is increasing or decreasing, with blue indicating that the total number of registered localities decreases, while red indicates that it increases. This blue-red scale goes from -3 to +3, while the white or blank interval covers -0.1 to +0.1. For the present purposes, the density of finds is regarded as reflecting tendencies within the settlement development, but it is necessary to qualify this with a few methodologically oriented remarks: It would have been ideal to conduct an analysis based exclusively on excavated settlements, but for the area in question, this would have resulted in a very slim package of comparative material, which is not necessarily representative of the settlement patterns of the Iron Age and the Viking Age (cf. Kristiansen 1985, 7–10). It cannot be avoided that the number of known and excavated settlements will be influenced by, for instance, the amount of modern construction work or by research strategies (Møller 2011, 161). In northern Stevns, for example, there is a large proportion of localities that have been detected on the basis of systematic museum-led reconnaissance expeditions when compared with the central and southern parts of the peninsula (see Kildetoft Schultz, Chapter 14). It may likewise be problematic that different categories of finds have different values in terms of what they can reveal and, especially, that the registered material is of greatly varying quality. Even so, it may be necessary, and perhaps even an advantage, to include several different types of sites when working with a macro perspective in terms of time and space (Møller 2011, 156–157). Thus, all find categories that could be dated to the separate archaeological periods have been included in the present analysis.

It has to be noted, that the data collection for the density maps ended in 2017 and sites and finds that have emerged since then have not been included in the statistical analyses. However, relevant new finds are mentioned in the text in relation to the discussion of individual sites and toponyms.

The analysis is based on the established archaeological division into periods, which has also been applied for all

registrations. Given this, some material can be dated only very broadly within some rather wide chronological frames, which means that some nuances are lost (Møller 2011, 160; Hansen 2015, 49–51). Here, the changes of density are shown as four overall chronological leaps. The transitions could have been differently laid out, but the general tendencies within the density development would still be the same: The overview in Figure 16.2 shows an especially clear intensity in the number of finds from the Late Roman and Early Germanic Iron Ages in comparison with the periods both before and after. This is due especially to the many burial finds from the first part of the period, which are special to Stevns. The decrease in density during the Late Germanic Iron Age may, at first glance, seem dramatic, but there are in fact still many sites shown as dots on the maps. It merely seems that activities become more concentrated in fewer places that have moved a little further inland. Only in the central part, around Hellested, is there a relative increase in finds dating from the Late Germanic Iron Age. In the Viking Age, there is an increase in the number of finds, especially around Tryggevælde Å in the north, near Strøby Toftegård and Valløby, and to a lesser extent along the eastern and southern coasts. This tendency appears to continue into the Middle Ages, although the find categories included here present too thin an image to allow for other conclusions than that the activities at Strøby Toftegård cease and the focus shifts further west, to the historical Strøby. At this point in time, however, Romanesque churches and medieval villages reveal where the population was concentrated. Throughout the rest of the article, the density maps will be used to make comparisons to the distribution of various place-name types.

The extended chronological view of the settlement makes it clear how the landscape and human activities in the landscape are constantly changing through processes that include factors such as demographic developments and new technology, as well as changes in the power structures. The inclusion of settlement names may help to nuance the perception of these settlement tendencies. Figure 16.3 shows the distribution of, respectively, the pre-Viking Age layer of place names and name types dated to the Viking Age and the Middle Ages. In contrast to the overall Danish picture, where later name types dominate, Stevns reveals approximately as many earlier as later place names. In relation to the remaining parts of south-eastern Zealand, Stevns and the areas around Tryggevælde Å and Stevns Å show a significant concentration of older place names, with outliers in the surrounding *herred*-districts of Bjæverskov and Fakse (Fig. 16.3; DS 16:X). To the west there is a fairly empty belt of land, reaching towards the middle part of Zealand. The ending *løse*, which otherwise occurs in large numbers across Zealand, is not found at all in Stevns and Bjæverskov *herred*-districts. Instead, we find here the only two representatives of the suffixes *hēm* and *sted* within the whole of the former Præstø Amt, namely the name *Hellested*

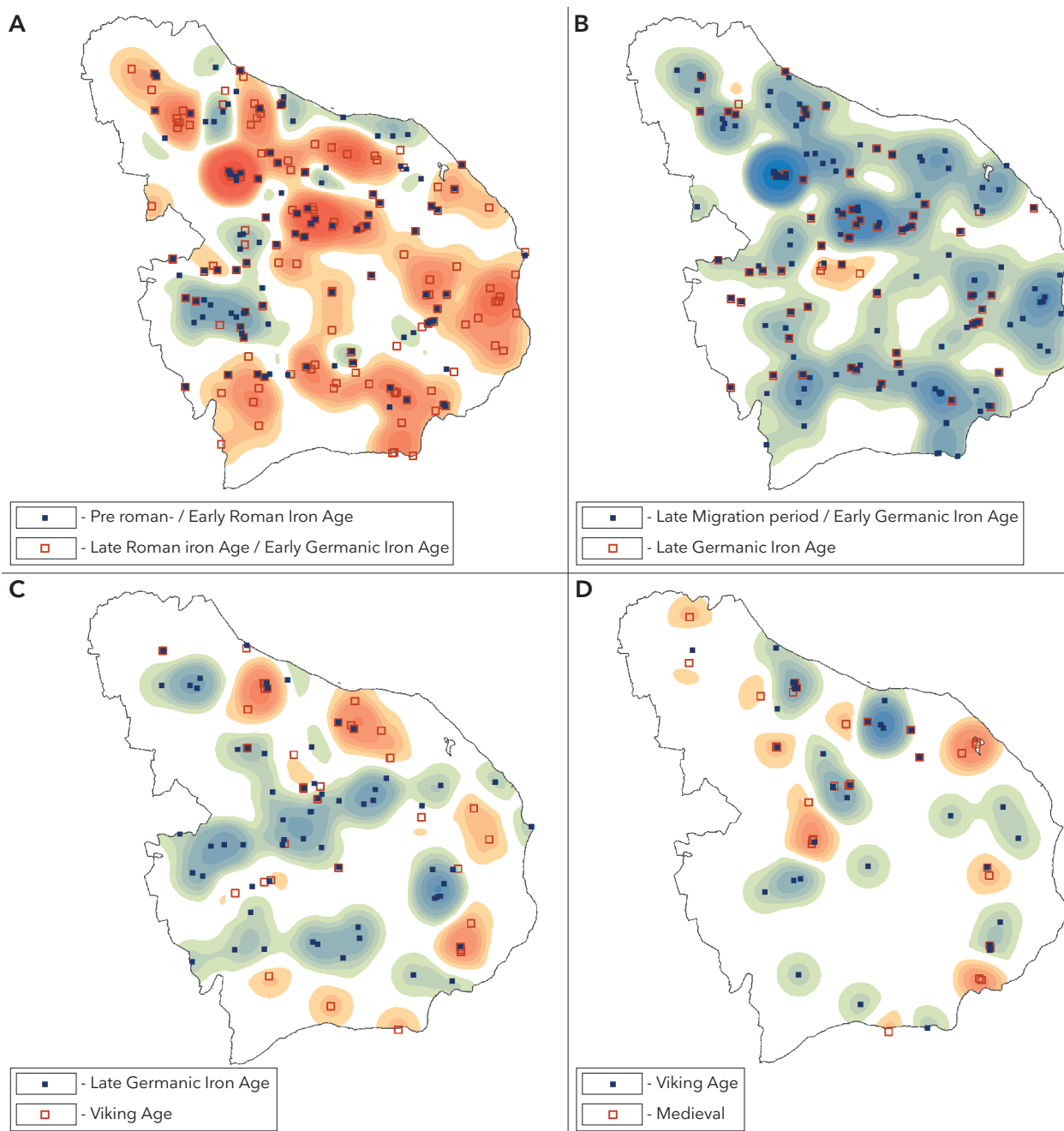


Fig. 16.2. The development in the density of archaeological sites during the period of 500 BC – AD 1200 spread across the overall archaeological periods. Red indicates an increase in the number of sites, while blue marks a decrease. Map produced by Anders Pihl, data supplied by the author.

and the name *Stevns* itself (DS 16: X). The dominant older name types are those ending in *inge* (six names) and *lev* (11 names), as well as *høj* (eight names) (Fig. 16.4). *Stevns* thus has both the greatest concentration and the greatest variety of the oldest name types found in south-eastern Zealand.

The strong presence of old name material indicates a certain degree of continuity among the people using the names, that is, a form of communication continuity through an extended period of time, which in turn may be linked to

some degree of structural continuity in *Stevns*. Interestingly, the oldest name types are absent exactly from the northern region around Strøby Toftegård, where there is a small group of place names of a younger type, featuring the ending *by*. There is, thus, a greater probability of a break in continuity or significant structural changes having occurred here during the Late Germanic Iron Age and the Viking Age. Names ending in *torp* and clearance names, thought to derive from the expansion of settled areas occurring in the Late Viking

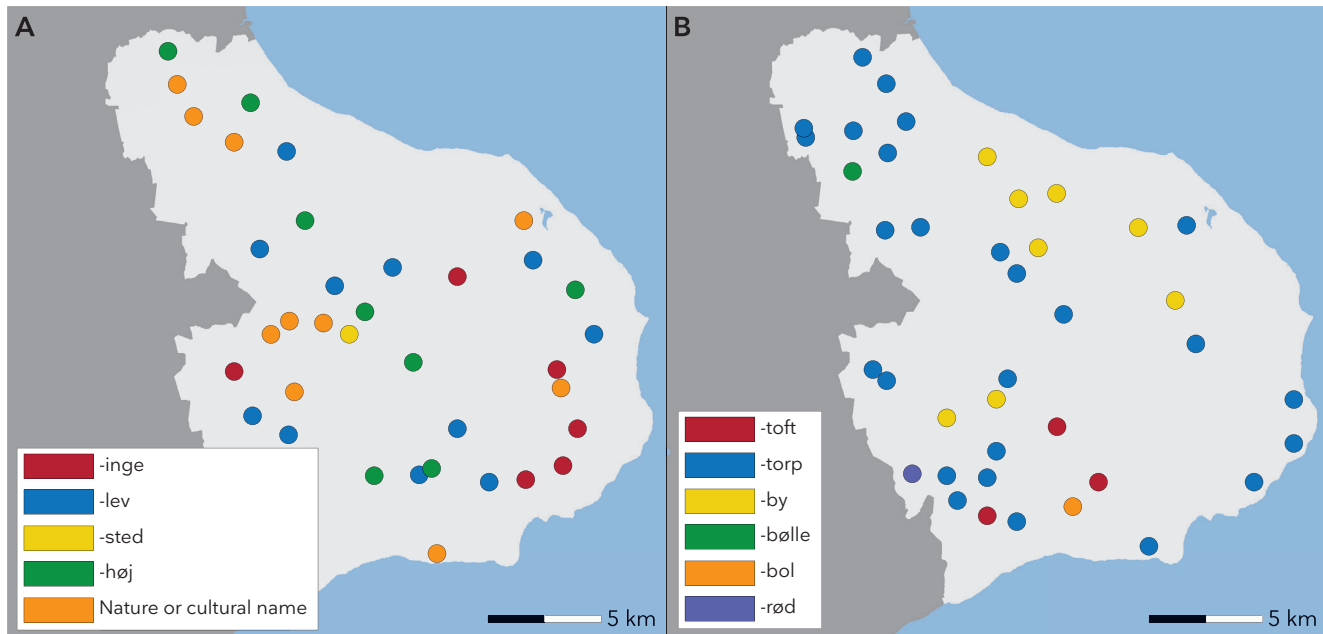


Fig. 16.3. The distributions of the older, pre-Viking Age layer of names on the left, and the layer of names from the Viking and Middle Ages on the right. Map produced by Anders Pihl, data supplied by the author.



Fig. 16.4. The term *høj*, ‘mound’ is also used in current Danish, and so names ending in *-høj* may still be coined today. However, most place names ending in *høj* in Stevns have an older flavour, that is they are very distorted or contain old linguistic material. Photo: Sofie Laurine Albris.

Age and Early Middle Ages, are peripherally located near the coast and toward the forested regions of central Zealand.

The oldest place names and possible older settlement units

When the oldest name types are mapped in relation to the development indicated by archaeological finds, it becomes clear that the distribution patterns differ (Fig. 16.5). The

ending *-ing* or *-inge* is a so-called derivation that may originally have been coined as topographical names, although some scholars believe that they were designations of inhabitants based on words describing topographical features (e.g. Ståhle 1946; Hald 1965, 42–45; Jørgensen 2004; Andersson 2010; Vikstrand 2013, 43). It is difficult to establish any direct relation between archaeological remains and *inge*-names since the date and the distribution of this name type are both very broad. There is general agreement that *inge*-names often covered large areas, possibly settled areas or domains. In Denmark, the linguistic material is almost always associated with aspects of the natural environment or terrain that must have been characteristic of the place in question. In Stevns we find *Klipinge* (1395 *Klypppyngæ*), possibly formed from the Old Danish noun **klip(p)*, ‘lump’, presumably hinting at the hills of *Klipinge Bjerger*, *Store* and *Lille Heddinge* (1256 *Heddingemakele*, 1259 *Hæddinghæ Litlæ*), possibly derived from the Old Danish noun **had(d)*, ‘a woman’s hair’, which may also be the name of the plant tussock cotton-grass (cf. above). Likewise, *Skørpinge* (1177–1201 *Skyrpyngæ*) is derived from the Old Danish **skurp*, a secondary form of the noun *skorpe*, ‘the crusty (place)’, and *Renge* (1337 *Ræthingæ*), derived from the Old Danish noun **rath*, ‘row’. In the parish of Karise west of Tryggevælde Å lies *Pebringe* (1383 *Pebering*), derived from the Old Danish **pipr-*, which is related to the root in the verb *pible*, ‘to trickle’.

Name formations ending in *inge* are regarded as being productive right up until c. AD 800 (Ståhle 1946, 495), although some may be later than that (Dam 2015, 56). The

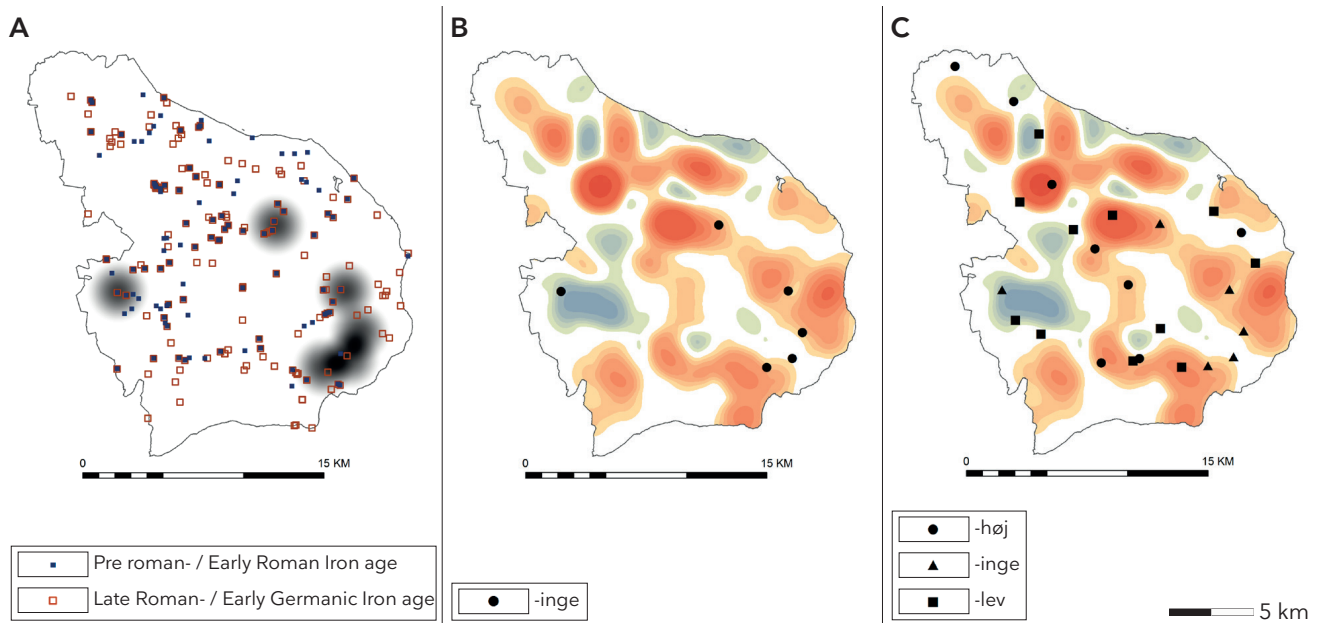


Fig. 16.5. Older place-name types and the find development from the Pre-Roman and Early Roman Iron Age to the Late Roman and Early Germanic Iron Ages. Red indicates an increase in the number of sites, while blue marks a decrease. Map produced by Anders Pihl, data supplied by the author.

occurrence of i-umlaut, which was in use until the 6th century, renders it likely that at least the names of *Heddinge*, *Skørpinge* and *Renge*, located very close to one another, must have been formed prior to this point in time (Christensen & Kousgård Sørensen 1972, 166; Haugen 2012, 19, 56). There are, thus, language-historical arguments that favour dating several of the *inge*-names to the period before Strøby Toftegård was established.

Most of the place names ending in *-inge* that exist in Stevns are located in a small cluster to the south-east. Several of the historical villages with *inge*-names lie on the outskirts of areas with high concentrations of finds from the Late Roman and Early Germanic Iron Ages. However, there is no close topographical link between the density of archaeological finds compared to, for instance, names ending in *lev* and *høj* (see Fig. 16.5). So, there is no direct, spatial relation between the distribution of *inge*-names and the intensity of finds or excavated settlements from the Iron Age. Nowhere within the investigated area have significant excavations of Iron Age settlement been conducted in the immediate vicinity of the present locations of villages with *inge*-names, and usually it is only within a radius of 1 or 2 km of these that such Iron Age traces are encountered. One explanation may be that *inge*-names had what is Bent Jørgensen calls conglomerate denotata, which means that they might refer to a settlement, the extended resource area of a settlement and its inhabitants (Jørgensen 2015, 47). Finding out what type of locality such names originally referred to is thus also complicated. It is likely that some of the names referred to settlement areas, but at the

time when parishes were established (the 12th century), Klippinge, Skørpinge and Pebringe became subordinate to settlements with, relatively speaking, later name types. Renge lies within the parish of Store Heddinge, which in Medieval times was a market town (*købstad*) and home to a royal residence (*kongsgård*) and royal property (*kongeleve*) (Ulsig 2009, 207; VJB 1231). The villages of Store and Lille Heddinge are both parish towns and were, in the Middle Ages, two completely separate settlements. We must assume that a segmentation of the original name *Heddinge* must have taken place, perhaps in connection with a settlement separating itself from it. As the name of an area, Heddinge may thus have referred to a very large area. The separation may have taken place in the Late Iron Age or the Viking Age, since traces of a settlement have been excavated north of the lands adjoining the village of Lille Heddinge (SB 050606–14). Lille Heddinge is practically squeezed in between its neighbouring villages of Skørpinge and Renge, and especially the location of Renge between the two Heddinge villages gives the impression of being a secondary settlement. About 1.5–2 km west of the historical Renge, at least ten longhouses from the Early Germanic Iron Age, arranged in rows, have been excavated (SB 050610–56). It seems obvious to associate this locality with the name, since Renge derives from **rath*, ‘row’ and because i-umlaut likely occurred no later than the 6th century. This opens up the possibility that some *inge*-names may be descriptions of the layout of the actual settlement. The same may apply in the case of the now lost place name of *Bellinge* in Ølby (outwith the investigated area), where a cluster of farms

from the 3rd to the 7th century have been excavated (Christensen & Tornbjerg 2009, 74–75). This name derives from the noun *ball*, whose basic meaning is ‘ball, sphere’, but, when describing a landscape, it is understood as ‘lump’, and as the excavated settlement is located on a small knoll, the name may also refer to the topography (Fritzner 1862–1867; Jørgensen 2009, 96). More examples of this kind may renew the understanding of *inge*-names, which are currently read as designators of either topography or inhabitants.

Apart from the one royal property (*kongelev*) in Store Heddinge, *inge*-villages do not have a prominent status in Stevns, although they appear to be old. It may be that the *inge*-names should be regarded as remains of older names for small settlement areas or -domains that have survived by becoming attached to settlements, but whose status has been superseded by restructuring that brought in new name types. Their unusually dense distribution in south-eastern Stevns must be seen as noteworthy in this context, but we are not able to otherwise define the extent and structure of these possible hamlets.

The name Stevns – remnant of a pre-Viking Age area based settlement structure?

The area name *Stevns*, too, might refer to an older settlement area, perhaps of a higher-ranking nature. The form included in the Danish Census Book (*Kong Valdemars Jordebog*) from 1231, *Stethyumsheret*, reveals that this is an old *hēm*-name (Hald 1942, 96–97). Although we do find other *hēm*-names in central/eastern Zealand, such as *Glim* and *Øm*, the core area of Denmark for place names ending in *hēm* is central and northern Jutland. In Stevns, it is not possible to identify an actual settlement that carried this name. The term *hēm*, however, may also mean ‘area, region’ in Germanic languages, and this may be the intended meaning here (Jørgensen 1980, 45). The first element of the name is the Old Danish noun *stæth*, n. or *stæthi*, m., ‘anvil’, which may refer to the shape of the cliffs of Stevns Klint, and the name may thus have designated the entire peninsula or a large part of it. Hypothetically, **Stæth-hēm* may thus have designated one of the areas referred to in the name Tryggevælde (1261 Thrygiwælla). Here, the second element could be the Old Danish noun *waldi*, ‘jurisdiction’, while the first element is the numeral ‘three’ in the genitive plural form (Jørgensen 1980, 24). The suggested interpretation is ‘the (implied meeting point) of the three jurisdictions’, as Tryggevælde is located where the *herred*-districts of Stevns, Fakse and Bjæverskov meet. Prior to 1660, these three districts were united in the fiefs (*len*) of Tryggevælde. Alternatively, the second element of the name may be the term *væld*, ‘source, spring’ and refer to the confluence of watercourses here. However, Bent Jørgensen finds it unlikely that a genitive form of the name of a stream would survive as a secondary name (Jørgensen 1980, 26). It is uncertain whether the name

of Tryggevælde and the three jurisdictions it may refer to are older than the establishment of the *herred*-district division. The term *herred* is in onomastic research generally interpreted as a compound consisting of the Old Danish nouns *hær*, ‘army’, and **rāth*, ‘council’, and should probably be translated as ‘jurisdiction’ (Jørgensen 1980, 19). The term first occurs in Canute IV the Holy’s donation letter of 1085, and so the institution must be older than that. Erik Ulsig believes that the *herred*-system was established in the Viking Age and functioned as jurisdictions or legal units already then (Ulsig 2011, 31). The frequency of older place-name types, ending in *inge*, *hēm* and *lev*, in the *herred*-names indicates that the divisions were founded upon settlement structures that were established before the Viking Age (see e.g. Hansen 2015). Bent Jørgensen thus believes that the structure of *herred*-divisions was introduced as a modification and straightening out of a previous, less consistent organisation method (Jørgensen 1980, 38, 43–44). The place name *Stevns* and the *inge*-names may reflect remnants of such an older structure, possibly with the densely clustered *inge*-names regarded as subordinate to the *hēm*-name.

Place names and society during the transition from Early to Late Iron Age

During the 4th and 5th centuries AD, a new group of place names begin to be coined, ending in *-lev* and *-sted*. These place names represent a significant innovation in name formation, as the first elements are often designations of persons or personal names. In this way, place names become directly linked to societal aspects (Vikstrand 2002).

In southern Scandinavia, it is not easy to identify naming patterns that reflect societal organisation, such as the central Swedish name environments mentioned in the introduction to this article. This may partly be due to place-name disappearances caused by restructuring around the transition to the Middle Ages, which was probably more extensive in the old Danish area compared to the rest of the North (Brink 1998, 301; Christensen 2010). But the older place-name material of Denmark and Scania does have its own distinctiveness. Here, the core element of the Swedish name environments, *Tuna/-tuna*, is rare, and instead, southern Scandinavia has a concentration of place names ending in *lev/löv* (Søndergaard 1972). The region of Stevns is one of the areas with the very highest density of *lev*-names, with 11 such within the investigated area. The second element in these names is highly relevant to an understanding of the societal organisation in the Iron Age (Jørgensen 2008, 176–177). It is held that *lev*, Old Danish *lef*, f., is in use from the Late Roman Period, around AD 300, until about AD 800. This dating is based on sound-historical and historical aspects of grammatical inflection and on the nature of the material linked to personal names: The personal name material employed in *lev*-names finds its closest match in

runic inscriptions using the Elder Futhark, and because the name type is absent from the Danelaw and never uses Christian names as the first element (e.g. Hald 1971, 9–10; Søndergaard 1972, 154–156; Fridell 2010). The attempt has been made to link the name type to the migrations of the tribe called the Danes and to the formation of a new elite in the Late Roman Iron Age (Clausen 1916, 136–143; Hedeager 1990, 186–188). This is due partly to the dating, partly to a certain statistical congruence between *-lev* and the rich graves of the Late Roman Period that is observed in both Stevns and, for example, Funen (Albrechtsen 1971; Nielsen 1977). However, the name type could have been active throughout the Late Iron Age, so there need not be any direct relation between place names and certain types of grave finds. In a long-term perspective, *lev*-names and the rich graves of the Roman Period may nonetheless be products of connected societal processes (see also Albris & Dam 2019).

The second element is etymologically related to Modern Danish *levn*, with the basic meaning ‘that which is left behind or handed over’. The element thus could refer to a ‘remnant’ or something that has been ‘entrusted (to someone)’, and which of these interpretations to prefer is difficult to decide. The element is commonly translated as ‘inheritance’, ‘patrimony’, although this may be taking things rather far (DS 24:14; Søndergaard 1972, 133–140; Bjerrum 1974, 7; Jørgensen 2008, 176–177). The meaning of the term has been the subject of some discussion, but whatever the nuances, it concerns the rights to and the handing over of property (for a detailed analysis, see Bjerrum 1974).

Among the *lev*-names in Stevns, there are six that clearly have personal names as their first elements: *Gjorslev* (1314 Giordslow), the man’s name *Gyrth*, *Endeslev* (1256 Iatnæslef), the man’s name **Iatnir*, *Sigerslev* (1261 Siggærslæwæ), the man’s name *Sighar*, *Lyderslev* (1346 Løthærsløf), the man’s name *Liuthar*, *Alslev* (1231 Alaslef), the man’s name *Alf*, and *Havnelev* (1177–1201 Hawneløff), the man’s name *Hoghni*. Additionally, *Jørslev* (1261 lurslæwæ) possibly contains the man’s name **Iūr*, which is, however, identical to the Old Danish noun **iūr*, ‘wild boar’. The name may thus refer to the animal instead. The wild boar played a special role in Iron Age mentality, and when it occurs in place names, it may have sacral or military significance, as may be the case in the place name *Jørlunde* in northern Zealand, which is associated with the sacrificial site of Lærkefyrd. Through the wild boar’s link to warriors, reflected in the ornamentation of the Late Germanic Iron Age, the word, which is cognate with Old Norse *jǫfurr*, developed the poetical sense of ‘chieftain, prince, leader, ruler’ (ONP: *jǫfurr*). Thus, the first element in *Jørslev* may be a title, cf. the discussions of Frøslev and Herslev below.

Three *lev*-names have been tentatively interpreted, but contain possible appellatives that describe landscapes, which is rather unusual for *lev*-names (Søndergaard 1972, 146) The

first element in *Varpelev* (1261 Warppælewæ) may be a noun that means ‘throw’ and can be interpreted as an appellative describing a person, ‘thrower’, or a place, ‘throwing place’, *Hårlev* (1256 Horlef) may contain the noun *horn*, ‘corner’, and the first element in *Vallo* (1318 Waleue) is possibly the noun *wall*, ‘plain, pasture’. These three names are located along the northern part of Tryggevælde Å, all of them some 3–4 km from Himlingøje and they can all be linked to significant grave finds, albeit of different dates. One rich grave from Valløby (*-by* is a later addition) is contemporary with Himlingøje, while a contemporary gravesite has been found in Varpelev, with the richest grave probably created in the first half of the 4th century, after the graves of Himlingøje (Grane 2013a, 143). On the northern outskirts of present-day Hårlev, but c. 800 m from the historical village, excavations have revealed house remains from the Roman Iron Age (050106–60). A very large grave mound in Hårlev has recently been ¹⁴C-dated to the 5th or early 6th century (Henriksen *et al.* 2019). It may be coincidental that the three *lev*-names with atypical first elements occur around Himlingøje. Tentatively, however, it may be suggested that these are, for instance, early formations that still take their primary inspiration from the topography.

Frøslev (1291 Fræslef), in central Stevns, contains the Old Danish noun **frō*, cognate with Gothic *frauja* ‘lord’, and possibly identical to the name of the god Freyr (DS 16:77; Søndergaard 1972, 62). Theoretically, the first element may thus be either the deity-name *Frō* or the related meaning ‘lord’, both here and in the two other Danish *Frøslev*-names in southern Jutland and in the island of Mors, as well as the district of *Frøs Herred* (see also Grundvad & Albris 2020, Vikstrand 2001, 64). In this way, the name encompasses an indication of power relations or even religion. In 1783, a hoard was found in a bog near Frøslev that consisted of gold foil jewellery and a two silver arm rings from the transition between Early and Late Roman Iron Age, that appear to be closely linked to material found at Himlingøje (Liversage 1980, 56, Lund Hansen 2011, 224). In later years, a large amount of metal-detector finds has emerged from the fields west of historical Frøslev village. These date from the 6th century and into the Middle Ages (050601–16 and –17).

Elsewhere, I have argued that certain *lev*-names reflect property associated with specific offices or functions, such as *Herslev*, with the first element *harjaz*, ‘warrior’, which occurs near both Tissø and Lejre (Albris 2015, 24–26). This theory is based on a suggestion made by the Swedish scholar of personal names Lena Peterson, namely that first elements that designate warriors, cult leaders or rulers may be titles or designations of functions and, in combination with *-lev*, they may refer to property that belongs to or is handed over in connection with certain offices or mandates (Peterson 2010, 189–190; see Albris 2015 for details). This is supported by the Old Danish term *kununglēf* (Modern Danish *kongelev*), ‘royal property, apparently used in the Danish Census Book

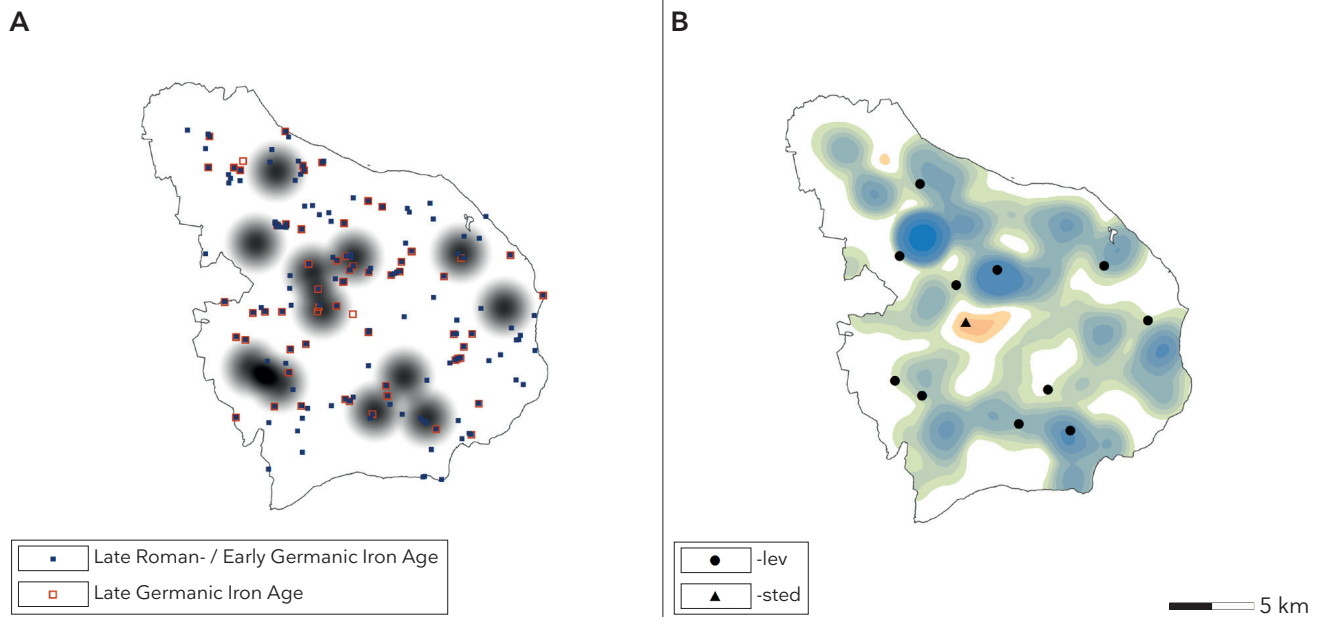


Fig. 16.6. The place-name types *-lev* and *-sted* shown with the density development in archaeological finds between the Late Roman, Early Germanic and Late Germanic Iron Ages. Red indicates an increase in the number of sites, while blue marks a decrease. Map produced by Anders Pihl, data supplied by the author.

of 1231 to designate estates and property tied to the royal institution (Aakjær 1934, regarding *kununglēf*; see also Andrén 1983, 50–55). Combinations of *-lev* with words such as **frō* and *jarl* in place names may be regarded as indications that there were appellative parallels to the use evident from the term *kongeleiv* (Hansen 2015, 178; DS 14: 98). On the basis of this theory, *Frøslev* may be translated as ‘property belonging to/entrusted to a lord/ruler’. With this in mind, *Frøslev*’s location as neighbouring the royal of Store Heddinge becomes interesting. It is possible that this royal estate is the remnants of old property belonging to a ruler.

In the Swedish name environments, warrior designations combined with the second element *-by* are interpreted as so-called comitatus place names, after Tacitus’ designation for the relationship between a Germanic chieftain and his retinue of warriors (Vikstrand 2013, 101). Due to their possible warrior and ruler designations, many *lev*-names may thus be interpreted as reflecting a certain segment of society, i.e. a warrior class.

Lev-names and Iron Age societal organisation

Lars Jørgensen has noted that the archaeological finds from Denmark indicate a development parallel to the one taking place in the Frankish area, especially in the 6th and 7th centuries AD (Jørgensen 1995, 104–105). In Merovingian society, a power structure was established that was based on personal alliances linked to the king wherein trusted sub-leaders were rewarded with gold and properties. A similar

system was constructed in the Anglo-Saxon area (Abels 1988, 12–13, 29; Steuer 1989, 100–103). The entrusted properties were not, however, subject to inheritance rights, but returned to the king when his trusted man died or lost favour. Even so, young noblemen and housecarls were often given the same lands as their fathers had held and, over time, inheritance rights based on genealogy developed with regard to lands and estates (Abels 1988, 44).

Something akin to Frankish and Anglo-Saxon structures, with princes and kings, distributing the rights to non-inherited property, may well have existed in Denmark (Jørgensen 1995, 105). Inspired by the Frankish and Anglo-Saxon systems, my suggestion is that the possible titles in the first elements that combine with *-lev* may have played a part in aristocratic personal alliances, with kings and magnates donating lands to trusted men and housecarls in return for loyal service (for a detailed discussion, see Albris 2015). Localities with names ending in *-lev* can thus be seen as political units that formed part of the gift-giving system that underpinned Iron-Age society (cf. Mauss 1925; Jørgensen 1995, 104–107; Hedeager 2002, 6; Helgesson 2004). The personal names may represent a societal level consisting of farm owners who paid taxes and/or did (war) service for a superior king or magnate in a kind of honour-based relation between free men, but who had been granted the rights to minor areas. Those *lev*-names that contain possible titles in their first elements may even have been systematically connected to certain functions, as is the case with the Anglo-Saxon *Kingstons* (Brookes 2016).

Considering the relationship between the historical locations of the current *lev*-settlements in Stevns in light of the archaeological find patterns from the period encompassing the Late Roman and Early Germanic Iron Ages, which ought to be the core period for the formation of *lev*-names, the name type appears to be linked especially to expansion during the initial periods (Figs 16.5 and 16.6). If the localities are divided into graves, excavated settlements and stray finds of gold, silver and coins from the Late Roman and Early Germanic Iron Ages, it emerges that *lev*-names are more closely linked to gravesites than to settlement sites (see Fig. 16.10). Late Roman Iron Age graves containing imported or other high-status items are found near Vallø, Varpelev, Alslev, Havnelev and Lyderslev. At Gjorslev, a gold ring was found that may possibly stem from a grave. These overlaps do not necessarily express chronological concurrence, but a rich grave may indicate that certain societal aspects were in place that resulted in a *lev*-name. More modestly equipped graves from the Late Roman Period are found in Hårlev, Varpelev, Gjorslev, Lyderslev and Havnelev. The more modest graves seem often to occur about 1 km from the wealthy graves, which suggests a social division. Graves from the Late Roman Period, however, are not linked to only *lev*-names, but are also found near, for example, Renge and Skørpinge (in addition to Himlingøje). The number of recognised settlements from the period generally does not correspond with the number and distribution of graves. The same goes for the northern part of Stevns, which has been studied and surveyed more than the southern part. There are traces of settlement in the form of investigated houses dated to the Late Roman or Early Germanic Iron Ages within a distance of about 1 km from Gjorslev, Sigerslev, Lyderslev, Jørslev, Hårlev and Varpelev. These settlement traces seem to have no systematic relationship to the historical borders of owners' guilds (*ejerlav*), and so we must assume that these had not yet been established (*cf.* Christensen & Tornbjerg 2009, 77; Hansen 2015, 126–130). The greatest concentration of settlement finds from the 2nd to the 6th century is found in the area around Store Heddinge and towards Stevns Klint on the coast. The investigated settlement finds that surround the historical villages often do not go any further back than to the Viking Age, but this may be due to the often-limited extent of investigations. For instance, in Frøslev, metal objects from the Late Germanic Iron Age and the Viking Age have been found (Ulriksen *et al.* 2015, 106), and in Gjorslev, a well containing a horse skull was found and dated to *c.* 700 (Hedeager 1982).

Only the parish and owners' guild of Varpelev have been so thoroughly studied that we believe we have an overview of the development of settlement here (Christensen & Tornbjerg 2009, 46–51). Apart from several graves within the parish, as well as roads and bridges crossing Tryggevelde Å, several settlements from the Early Roman Iron Age are known to the north, south and east of Varpelev village (see

Fig. 16.10). From later periods, finds are concentrated in the area south of Varpelev. The settlement of Bøgelund some 500 m south of Varpelev village, dated to the Late Germanic Iron Age and the Viking Age, consists of four or five farms that are probably not all contemporary. The youngest house is of the Trelleborg-type, dated to around 1000, but the site also yielded pottery belonging to the Early and Late Roman Periods, as well as to Early and Late Germanic Iron Age. From the Late Iron Age and the Viking Age onwards, there is only one centrally located settlement within the owners' guild and, although the settlement moved towards the end of the Viking Age, the early location and the general delimitation of the owners' guild seem to be linked. The traces pertaining to the village itself do not go further back than 1000, and a stone house from the Early Middle Ages has been found west of the church.

A centrally located sanctuary?

In Chapter 14, Maja Kildetoft Schulz suggests that a possible magnate residence was located in Hårlev, near Tryggevelde Hovedgård (*cf.* the abovementioned burial mound), and that Strøby Toftegård could be a satellite settlement of this that controlled the access to the sea. The place-name material points out the same area as a potentially central area within the region, but it is particularly the place name *Hellested* east of the water course opposite Tryggevelde Hovedgård and just south of Hårlev that should be emphasised. If the general picture of archaeological finds is considered, it is only around Hellested that an increase is observed in the number of archaeological sites between Late Roman and Early and Late Germanic Iron Age, counting both stray finds and excavations (see Fig. 16.6). Settlement names ending in *sted* are dated to the period *c.* 400–900 and are thought mainly to be formed before the Viking Age (Kousgård Sørensen 1958; Dam 2015, 49). *Hellested* (1291 Hælgæ[stæth]æ) is the only place name with this ending within the investigated area. The first element may be the man's name *Helge*, Old Danish Hælghe, but John Kousgård Sørensen regards a specific form of the Old Danish adjective *hēlaghær*, 'holy', to be more likely (Kousgård Sørensen 1958, 77). This assessment is based not just on linguistic arguments, but especially on the placement of Hellested near the crossing point over the streams between Stevns and the rest of Zealand, because a central location is presumed to be important for shrines (see Fig. 16.10). The location, in a spot where three administrative districts meet, is a special aspect in the cases of Hellested, Hårlev and Tryggevelde (*cf.* above). The place thus constitutes a junction in terms of traffic, since Tryggevelde Å here merges with the waters of Stevns Å, as well as those of the burns Sandbæk and Krogebæk. In pre-Christian times, there were several roads and crossings both at Varpelev and Hårlev to the north of Tryggevelde/Hellested and also south of here, at Elverhøj (SB



Fig. 16.7. The Hellested ring. Photo: Roberto Fortuna, the National Museum.

050304–25; Hansen & Nielsen 1979). Brushwood trackways from the 6th and 7th centuries have been evidenced in the meadows between Hellested and Tryggevælde Hovedgård (Hansen & Nielsen 1979, 109). The meadows along the stream contain an area with old peat bogs and animal as well as human bones, possibly an Iron Age sacrificial site (Hansen & Nielsen 1979, 95; KØM j.nr. 400).

Kousgård Sørensen also mentions that there may have been a thing or an assembly site in Hellested, as emerges from the field names registered in field records of 1682 *Ting-Høys Stumpe, Tinghøes Agre*. It is not possible to locate the site of the assembly hill mentioned in these names more closely than somewhere around Hellested Nørremark, the ‘northern field’. However, the scientist Peder Syv, who was also the minister of Hellested, mentions in 1667 ‘the assembly hills where formerly things and courts of justice were held,’ *Ting-højene hvor formedags skal være holdet ting og rettergang* (cited in DS 16:70). According to Trap (5IV: 176), the thing-site of Stevns Herred supposedly moved from Store Heddinge to Kidtshøj outside of Kongskovs Grøft in Hellested in 1609. Since there is no topographical link between Hellested Nørremark and Kongeskoven, Lis Weise does not believe that the above-mentioned field names in Hellested refer to the thing associated with Stevns Herred (DS 16:70). Peder Syv must be expected in the 17th century to know the then present location of the assembly site, and so the thing-hill names in the Nørremark area must refer to a different thing-site of unknown age. According to Ola Svensson, the thing-sites belonging to the herred-districts were often located in the border regions between several settlements or parishes (Svensson 2012, 398–399). Thus, if a thing-site was located here, near the boundaries between three jurisdictions, this may have constituted a supra-regional meeting place. The fields south of Tryggevælde Hovedgård likewise reveal a selection of field names containing the term *tinghus*, (reform map 1808 Tinghuus Mark, Tinghuuset), which is associated with the thing-building that

once stood at the road junction here. The noun *tinghus* is not evidenced prior to the 17th century, but the practice of erecting buildings for the purposes of carrying out legal acts is known from the early 16th century (Holmberg 1974, 35–38; Christensen 2010, 220). There is no evidence that thing-related functions were placed south of Tryggevælde Å prior to the Late Middle Ages.

Of course, interpretations of place names must be taken with some reservations. In pre-Christian times, the adjective ‘holy’, *hellig*, seems to mean not only ‘holy’ in the sense of possessing sacrality, but also ‘inviolable’ (Christensen 2010, 64–65). In Swedish place names, the combination of *helig* and *-stad* occurs in several instances of *Helgestad*-place names, and it has been suggested that some of these may have been coined from an appellative, **helghæstadher*, with the meaning ‘holy place/site’ (Vikstrand 2001, 250–251). Some archaeological circumstances may perhaps support a similar understanding of Hellested. In the 19th century, a large gold ring, with a high content of silver and a diameter of c. 31 cm, was found exactly in the fields north of the village (Fig. 16.7; NM 6487; Jørgensen and Petersen 1998, 119–120). The ring has a twisted hoop and two extended, ornamented terminals that meet at the front. The type is difficult to date, although a few similar rings have been found at Vittene in Västergötland, Sweden, in a settlement area that exhibits continuity from the Pre-Roman Iron Age into the Late Germanic Iron Age (Fors 2008, 11–19). These are interpreted as rings intended for statues of gods. A torque and a snake-head ring, also of gold, from the same area are dated to the Pre-Roman and Early Roman Iron Age, respectively, and the ‘statue rings’ are given a similar date, despite the lack of parallels. The ring from Hellested is assumed, on the basis of the rings from Vittene, to date from the Early Roman Iron Age, although this date is very uncertain (Jørgensen & Petersen 1998, 119–120). Unfortunately, the precise contexts of both the rings from Vittene and that from Hellested are unknown, but within recent years, excavations of the complex near Stavsager Høj in the parish of Sønder Hygum, southern Jutland, fragments of a broken neck ring have been found that are thought to stem from the same type of ring (Grundvad 2020, 130). The gold fragments lay in two holes from roof-supporting posts of a three-aisled house, which likewise contained weapons that had been destroyed. The house can be likened to the cult house at Uppåkra, and the phases to which the gold fragments could be linked are preliminarily dated, on the basis of pottery and weapon finds, to the Early Roman Iron Age up until the Late Roman or Early Germanic Iron Age (Grundvad 2020, 131). The context of the Stavsager ring underlines the potential association that this type of large gold ring has to the cultic practices of the period. A group of rings with broad, oval front sections, but without the twisted hoop – among these the ring from Strårup near Vejle (see Martens 2011 for a presentation of this ring type) – must

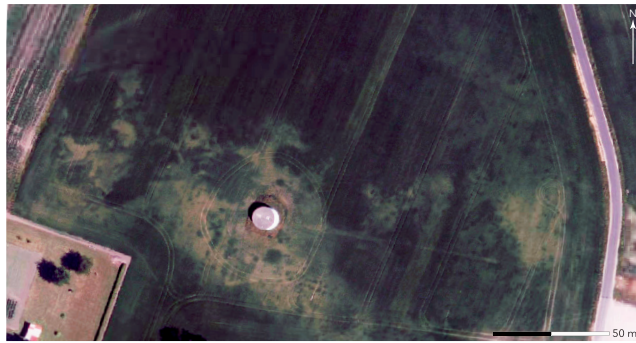


Fig. 16.8. Aerial photograph of the area north of Hellested village, where the gold ring was found. Markings are visible that may stem from houses and pits. Aerial photo courtesy of COWI.

be closely related to this type. They are dated to the Early Germanic Iron Age.

In recent years, a Roman denarius, as well as brooches from the Late Germanic Iron Age, were found by means of metal detecting in the field north of Hellested where the ring was also discovered (SB 050603–44, –53). On an aerial photo of this area from 2012, dark crop marks from possible house sites and pit houses are visible (Fig. 16.8). Around the site of Hellested village itself, there are furthermore finds from the period spanning the Late Germanic Iron Age and the Middle Ages (SB 050603–29, –43, –44; see also Ulriksen *et al.* 2015, 108, 110), and settlement traces from the Late Iron Age and the Viking Age have been found east of the town (SB 050603–37). All in all, it seems likely that a sanctuary could have been located in Hellested.

About 1 km to the east, between Arnøje and Hellested, we encounter a special field name in the field record of 1682 *Sal Agre*, and on the land reform maps, 1796 *Salagre*, which may be interpreted as composed of the noun *sal*, ‘hall’, in the sense of ‘magnate farm’ or ‘cult house’ and *ager*, ‘arable field’ in the plural (Christensen 2010, 36–37, 87–89). A suggested translation of the name can therefore be ‘the fields with the hall’. At about the same place as the name is recorded on the map, a beak brooch from the Late Germanic Iron Age has been found (SB 050603–28), but as yet no more finds from this field reveal the use or status of the place. However, c. 900 m further to the southeast, closer to Arnøje village, an area has been excavated in connection with the find of a gold bracteate hoard (SB 050603–62). This revealed settlement traces continuing in a westward direction. At least six houses were examined dating to the Roman Iron Age and Late Iron Age (Ulriksen 2022). In the area, there were also many metal finds, several of them precious metals, jewellery and weapon parts. The place name Arnøje (1261 Arnhogh) ‘eagle-mound’, further suggests the presence of a large burial mound. It seems probable that this is the area to look for the *sal* or hall suggested by the field name *Salagre*, and further how we need to look at landscapes

in a wider perspective. It is possible that the rich settlement at Arnøje represents an early phase of a centre that at some point moved some kilometres towards the west, as is seen in the Fæsted/Harreby area in Jutland (Grundvad 2020).

Several other elements reflect how the area around Tryggevælde, Hårlev and Hellested must have enjoyed a special status in pre-Christian and/or early Christian times. The very conspicuous Hothershøj at Hårlev church was, as previously mentioned, erected in the 5th or 6th century, and the Tryggevælde rune stone from the first part of the 10th century mentions both a mound and a *skaip*, which is possibly a reference to a ship setting (DR 230; Olesen 2014). The original location of the rune stone remains unknown, but its inscription suggests the presence of a burial monument, akin to places such as Lejre or Jelling. The manor of Tryggevælde Hovedgård is, moreover, registered as a royal estate in the 13th century. These disparate elements are not contemporary with one another, but together, they point in the direction of an undiscovered centre in this area, which may have existed through a sustained period of time. It is worth noting that the indications of the presence of a shrine and a thing-assembly site at Hellested are located on the opposite side of the stream in relation to the manor, rune stone and burial mound, and are thus in a way isolated from these. There are no other onomastic indications of a shrine in the vicinity, as the closest other place name with sacral contents is *Vivede* (1380 Wiuede), in Fakse Herred some 9.5 km to the south-west, which is a compound of the noun *vi*, ‘shrine’, and the Old Danish noun *weedh*, ‘woods’. This name possibly designates a shrine (in or of a forest) of a more peripheral or remote kind (*cf.* Vikstrand 2001, 20–24). On the basis of the material thus presented, we can tentatively hypothesise that Hellested may have had the character of a central unifying sanctuary for the whole of the Stevns area, but that further archaeological evidence is needed in order to support this theory.

Due to its size, the gold ring from Hellested may be regarded as a strongly symbolic object, possibly a decoration for an idol, as is suggested for the Vittene rings. It may also be a special ring for swearing oaths or for other ceremonial purposes, as is suggested from rings known from Viking Age contexts (*cf.* Eriksen 2015). On the basis of these other finds of rings, the ring from Hellested was presumably made during the Roman Iron Age, but in theory it may have had a long period of use before it ended up in the ground.

The interpretations of the field names containing the elements *ting* and *sal* must be regarded as uncertain, since they can only be traced back to post-medieval sources. During the Middle Ages and the Early Modern period, there were changing jurisdictions in the shape of both so-called *birker* and *herreder*, and there may therefore have been unknown thing-sites in many locations. With the various different sources in mind, however, it can be hypothesised that, in pre-Christian times, Hellested was a sacred or inviolate

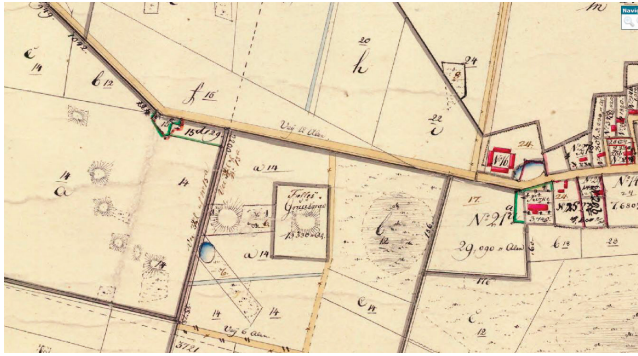


Fig. 16.9. The 19th-century land reform map shows a good representation of the original mounds at Himlingøje. © Danish Geodata Agency.

place, possibly a place for gathering and performing sacrifices that was central to the entire Stevns region, possibly also functioning as an assembly site on the as yet un-found mound of Tinghøj. There are, however, also indications of the existence of another thing-site.

The name *Himlingøje*

Several potentially very old names of mounds, ending in *-høj*, exist within the present area of investigation. They have come down from the Middle Ages and have opaque and archaic first elements and distorted second elements, but they cannot be dated precisely (DS16: XXIV). Several of these names appear on the density map to be associated with the Late Roman and/or Early Germanic Iron Age, which may be explained by the names designating exactly some of the mounds where burials from these periods have been found (cf. Fig. 16.5). The place names *Arnøje* (1261 Arnhogh) and *Torøje* (1344 Torendhæ) may contain, respectively, the animal designation *ørn*, ‘eagle’, and the personal name *Tore*, while *Gevnø* (1387 Geffnøwæ), *Holtug* (1261 Holtøhæ), *Egøje* (1366 Egwe) and *Åshøje* (1262 Asum) contain designations of natural features. Among these, the name *Himlingøje* (1356 Hymlyngħow) stands out. The origins of the first element are uncertain, but are interpreted by both Lis Weise and Bent Jørgensen as an Old Danish appellative, **hēm̃ling*, derived from the Old Danish verb *hēm̃(b)læ*, Modern Danish *hjemle*, ‘to validate (legally)’, Old Norse *heimila*, ‘to authorize, give permission, cf. the noun *hjemmel*, ‘authority, warrant’ or ‘title’ (DS 16: 48; Jørgensen 2008, 121). A form of the verb *hjemle*, using an *i*, *himlæ/himble*, occurs especially in documents from the eastern parts of Denmark, among these a document from Bjæverskov 24/5 1425: *arffuinge at fry oc himlæ* (see the notes in the Dictionary of old Danish, GDO: *hemle*). *Hjemmel* is a concept associated with legal authorisation, and this makes it possible to see the place name *Himlingøje* as linked to some form of legislative performance. On the basis of this

interpretation, it may be that one or more of the mounds were at some point used as an assembly site or thing-mounds. As can be seen on the 18th/19th century land-reform map, the two easternmost mounds, one of which is called *Baunehøj*, were once very large, while the other, smaller mound lay in a semicircle around these, thus forming a kind of stage with good visibility from one mound to another (Fig. 16.9). Neither the name nor the possible function as assembly site can be older than the erection of these mounds. When the burial site was excavated in full, it was dated to the Late Roman Iron Age (Lund Hansen *et al.* 1995). The potential thing-site would, however, post-date the burials and is not necessarily directly linked to these. It would rather represent an appropriation of the monuments and their link to the ancestors.

As is the nature of interpretations of old onomastic material, the explanation provided for *hjemmel* is not 100% certain. Another suggestion, often assumed by archaeologists and lay people alike, is that the first element is a vanished *inge*-name, referring either to a settlement or to inhabitants. If that is the case, the name may derive from the insect designation *humle*, ‘bumblebee’, the Old Danish man’s name *Humli* or an Old Danish noun, **humal*, corresponding to the Swedish dialect term *hummel*, ‘knoll, mountain hillock’ (cf. DS 17:94, Humlum and DS 21: Hummelhede and further Sahlgren 1935). The latter possibility would approximately fit the landscape around Himlingøje, which is relatively abundant in knolls, and the mounds will have enhanced this effect.

It is nonetheless the term *hjemmel* that is put forward in place-name scholarship as the most likely explanation of the name *Himlingøje*. One argument favouring this understanding of *Himlingøje* is that assembly sites connected to monumental grave mounds and landscape elements are known from various other places, such as Anundshög and Gamla Uppsala in Sweden (e.g. Svensson 2012, 398–399; Sanmark & Semple 2013). Additionally, the burial environment found at Himlingøje is of a quite exceptional nature within Scandinavia and northern Europe. The *Himlingøje* graves constituted the centre of a network of graves containing Roman imports distributed across all of Stevns, too extensive to be treated here. Suffice it to note that the already mentioned grave at Valløby contained a pair of silver beakers corresponding to a pair from the large mound of *Baunehøj* at Himlingøje, which implies close contacts between these two places (Lund Hansen 1987, 413). This suggests that *Himlingøje* was central in terms of the distribution of luxury goods and contacts to the Roman area throughout the 3rd century (Lund Hansen *et al.* 1995, 374 ff; Grane 2013a, 142). The burial site has been interpreted as an expression of a site that played a central part in early Danish state formation (e.g. Storgaard 2001) – an interpretation that has, in turn, been regarded as going too far (e.g. Näsman 2002; 2006). This discussion will not be treated in any depth here, but,

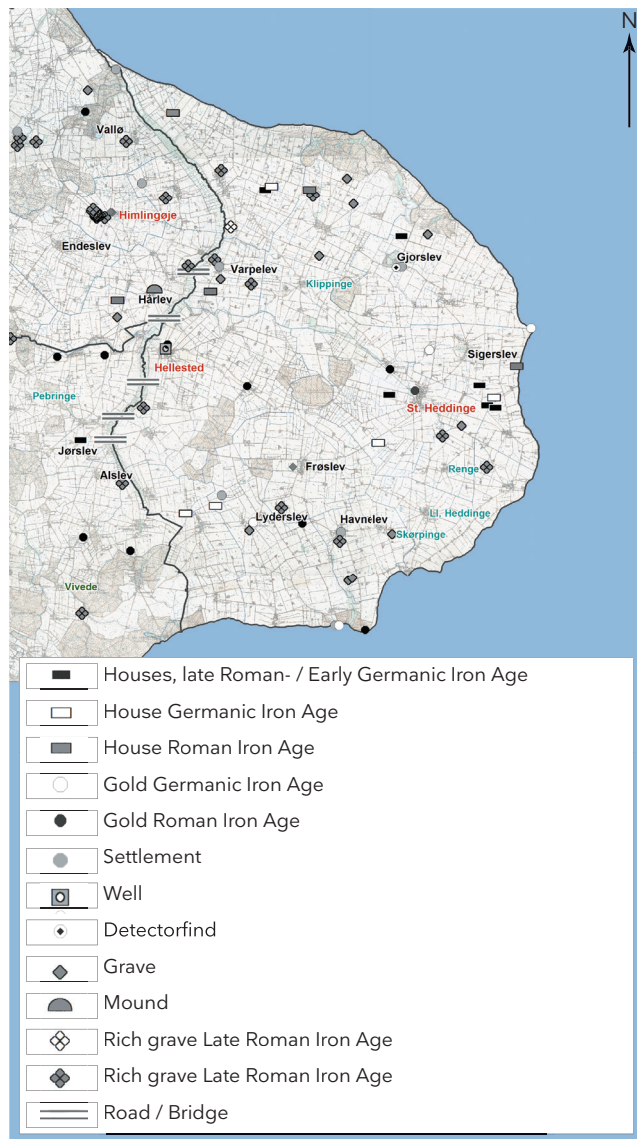


Fig. 16.10. Map of find types, graves, excavated settlements and finds of gold from the Late Roman Iron Age to the Late Germanic Iron Age. Background map © Danish Geodata Agency.

no matter the essential understanding of them, the wealthy burials in the mounds at Himlingøje testify to the presence of a powerful elite with a strong local presence and close contacts to the Roman Empire. It appears likely that status of this calibre continued to resonate in such a way that the place maintained an important role within the local area. At the locality of Nytofte, north of the present village and east of the hills, lies a sizeable area with metal-detector finds from the Early Iron Age through to the Middle Ages, although the find material is neither large enough nor distinctive enough to determine whether it reflects an accompanying settlement site (SB 050105–25 and –29). Activities relating to a legal assembly may, however, still have occurred here. The finds

are predominantly from the Late Iron Age, and several are of good quality (Sørensen 2008, 273). Further, in recent years a hack silver hoard and settlement remains from the 4th–5th centuries have been unearthed at Højagergård south of the area with the burial mounds (050105–35). These sites testify to significant activities still going on in Himlingøje after the time of the burials. It should also be noted that, under the present church in Himlingøje, the remains of a Romanesque round church from c. 1100 have been found, and the unusual shape of that church is thought to emphasise the special status of the site (DK: 339–344). If there were legal assemblies at both Himlingøje and Hellested, it must be assumed that they operated on different levels or during different periods.

Place names and archaeological dynamics in the Viking Age and the Middle Ages

The place-name material from the Viking Age and Middle Ages has been surveyed in detail (see Albris, Chapter 15). In northern Stevns, there is an area from which older Iron Age names are absent but with some very large *by*-units exactly around Strøby Toftegård (*cf.* Fig. 16.3). The distribution of the older name types versus that of the younger ones is interesting. Generally speaking, Denmark has many localities with younger name types but few of the oldest name types, which yields the impression of gradually expanding settlement within the landscape, increasing from few to many (*e.g.* Brink 1988, 69; Vikstrand 2013, 7–11). In Stevns, however, there are almost as many old as there are younger names. While the place-name types from the Viking Age and the Middle Ages have a strong concentration in central Zealand, there are relatively few of these in Stevns (DS 16 XI). The concentration of names ending in *by* in northern Stevns seems to correspond with an increase in archaeological sites belonging to the Viking Age (Fig. 16.11). Some metal-detector finds could indicate that the *by*-localities here date back to the 7th century, as is argued elsewhere (Dam 2015, 65–72; Hansen 2015, 124–126). However, excavations in several of these villages have mainly yielded material from the 11th century (Christensen & Tornbjerg 2009, 52; Hedeager 1982). It actually looks as if a settlement structure with a few settlements/villages located in corresponding owners' guilds finds its roots in the Late Germanic Iron Age. Some, though, are not established in their medieval locations until late in the 11th century, when a previous settlement site is abandoned – this goes for both Strøby and Varpelev, *cf.* above (Christensen & Tornbjerg 2009, 77–78). Some older place names, for instance the name of the settlement at Strøby Toftegård itself, presumably vanished in connection with such moves.

Although the absence of settlement name types from before the Viking Age within a certain radius of Strøby Toftegård and its surrounds matches the picture of magnate

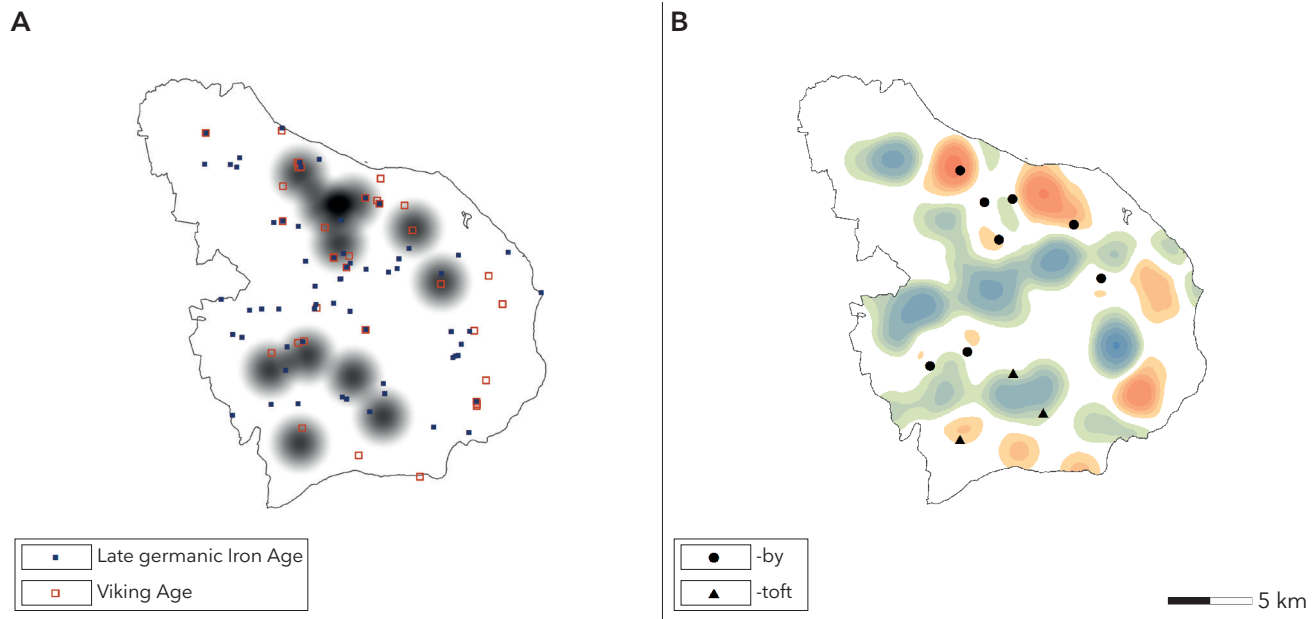


Fig. 16.11. The name types -by and -toft shown with the density development in archaeological finds between the Late Germanic Iron Age and the Viking Age. Red indicates an increase in the number of sites, while blue marks a decrease. Map produced by Anders Pihl, data supplied by the author.

farms and central-place areas, such as Gudme in Funen and Boeslunde in western Zealand, the area nonetheless deviates from the others in terms of the (relatively) poor and late extent of settlement divisions, as reflected in, for example, *torp*-names (Albris 2014a, 98–113; 2014b, 21–24). These are densely placed in the western parts of the *herred*-districts of Bjæverskov and Fakse, but in Stevns and along the water courses there are only a few *torp*-names across the middle of Stevns and near the coast (Fig. 16.12).

A significant *torp*-formation around former magnate farms or central areas, such as Uppåkra in Scania or Boeslunde in western Zealand, can be seen as an expression of the fragmentation of the domains over which they once held sway (Lihammer 2003, 80–99; Albris 2014b, 111–113). It looks as if such a division and parcelling out of the central settlement areas into *torps*, at the transition into the Middle Ages did *not* occur in Stevns. A restructuring nonetheless does seem to be reflected in the names ending in *by*. The cluster of large village units with names ending in *-by* around Strøby Toftegård may be linked to an estate. The very large owners' guilds called something with *-by* indicate that these place names do not represent late establishments of new settlements or late fragmentation, as do many of the *torp*-names. Rather, they should perhaps be seen as a reflection of a new settlement phase that entails a kind of tightening up of the settlement situation (Jørgensen 2009, 94). It may be that this period in time brings a general tightening up that results in the *by*-names of Tårnby, Strøby, Magleby, Råby and Valdby. They may reflect settlements merging or moving

site in the 11th century, and this may have resulted in these fairly simple new name formations (Jørgensen 2009, 96).

Summary: Settlement dynamics and power structures in Stevns in the 1st millennium AD

In several ways, the oldest place-name material in Stevns contains information about settlement structure, power relations and societal organisation in late pre-Christian and early Christian times. Place names are fragments of past communication that may inspire certain perspectives on the archaeological material. As a whole, place names and archaeological evidence together show that, over the course of the 1st millennium, the developments within Stevns were more complex than they appear at first glance. We are left with the impression that some of the important pieces are still missing in order for us to understand the developments. Even so, certain main traits can be discerned:

The many place names of older types extant in Stevns suggest a long continuity in the fundamental understanding of and communication about the landscape. Moving settlements, reorganising production methods and technology or changes within the social conditions all put pressure on the naming system and may result in both name changes and name disappearance (Brink 1984, 31–35; Vikstrand 2013, 101). Preserved older place names therefore entail a certain continuity or stability among the people using the names (*cf.* e.g. Becker 1977, 30). The old *hēm*-name lurking behind the name Stevns itself and the *inge*-names may, for example, be

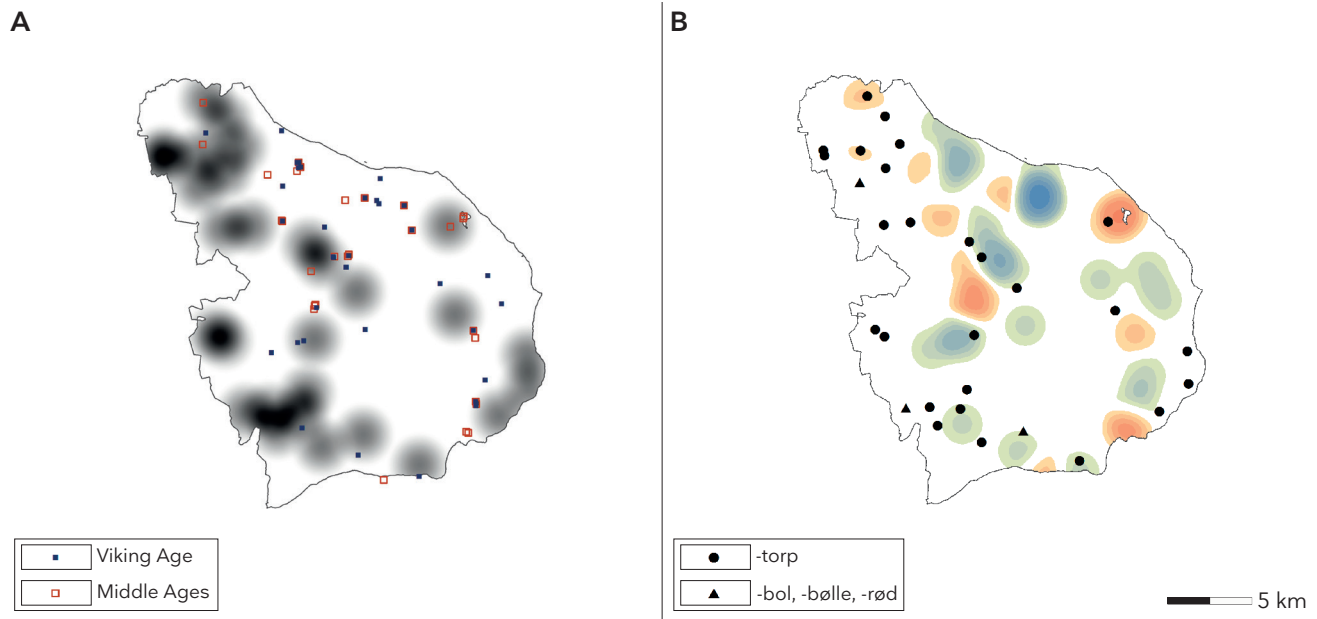


Fig. 16.12. The formation of torps, outlying settlements, in Stevns shown in relation to the archaeological density between the Viking Age and the Middle Ages. Red indicates an increase in the number of sites, while blue marks a decrease. Map produced by Anders Pihl, data supplied by the author.

the remains of an area organisation that goes very far back. Extended continuity can be expressed in many ways. The fact that many owners' guilds in Stevns are very large, combined with the fairly low number of younger place names, give the impression that, in general, Stevns did not experience segmentation and restructuring to the same degree as seems to be reflected in the many *torp*-names around places such as Tissø, Uppåkra, Boeslunde and even Gudme (Albris 2014b, 111–113; Lihammer 2003, 80–49). Unfortunately, we do not know much about estate structures and property relations in Stevns or elsewhere in Denmark until around the middle of the Middle Ages. Erik Ulsig notes that there is an unusually high number of freeholders in Stevns at the end of the Middle Ages (20%), and that this must reflect a situation that goes way back (Ulsig 2009, 200–204). These freeholders had a direct relation to the king and may have been organised around the royal centre in Store Heddinge, centrally located within the herred-district (Ulsig 2009, 207–08, 231). The sparse sources from the 13th and 14th centuries moreover reveal that early on in the Middle Ages there was a significant presence of petty nobility in Stevns, ousted around 1400 by the large estates (Ulsig 2009, 209–10, 227). Both freeholders and petty nobility may have their roots in a social intermediate level that occupied the *lev*-localities during the Late Iron Age and Viking Age. As yet, however, no link has been confirmed between *lev*-names and the emergent aristocracy, and there are still large gaps between the wealthy grave finds from the Roman Period, the *lev*-names and the noble and petty noble estates of the Middle Ages.

In the 4th century, after burials at Varpelev ended, the customs of rich burials ceased within Stevns. Although the amount of gold found cannot match Gudme in Funen, there are nonetheless many finds of gold from the 5th and 6th centuries, which suggests a continued level of wealth into the subsequent centuries (Grane 2013b, 366). Among the gold finds from the Early Germanic Iron Age are seven bracteates in the abovementioned hoard from Arnøje, one of which features runes, a hoard containing a bracteate found in the owners' guild of Sigerslev and another bracteate found near the coast of southern Stevns, both with runes. Finds of gold, *lev*-names and graves from the Late Roman Period seem fairly evenly spread out across the region. But there are other conditions that lead me to regard north-western Stevns as wholly or partially delimited from the south-eastern part prior to the formation of herred-divisions. On the density maps (Figs 16.2, 16.5, and 16.6), find concentrations seem to divide into two areas with a strongly northern and north-western focus around Tryggevælde Å, Himlingøje and Strøby Toftegård, but also a southern and south-eastern one whose centre lies in Store Heddinge and Frøslev. The archaeological patterns may be due to differences in the intensity of archaeological surveys and excavations. Still, a division into two such areas also makes sense with the 1770 maps of the Royal Danish Society of Sciences and Letters (*Videnskabernes Selskab*) in mind, where they are delimited from one another by forested areas. The two areas exhibit differences in the place-name material: in the north-western area, *lev*-names with first

elements consisting of appellatives dominate, while those in the south-eastern area feature almost exclusively personal names as first elements. Moreover, names ending in *inge* have a clear density in the south-east, while names ending in *by* have a density in the north. *Torp*-names are located along the peripheries of these two suggested south-eastern and north-western core areas. The place-name material likely reflects variations in the developments of these two areas during the Iron and Viking Ages.

It is thus on the basis of a general survey of place names and archaeology that I present the suggestion that Stevns was divided into, on the one hand, a northern and north-western area, and on the other, a central and south-eastern area during the Iron and Viking Ages. At the core of the northern area are three *lev*-names with topographical appellatives. Perhaps these first elements show that the names were coined early on? The three names lie in a circle that, hypothetically, form a little enclave around Himlingøje with the high-status graves and a possible later legal assembly site.

Here, too, around the northern part of Tryggevælde Å and with the weight a little further east, we find a distinct cluster of place names ending in *by*. These *by*-names in exactly the northern part of Stevns, around Strøby Toftegård, indicate that some degree of reorganisation or actual breaks occurred here, since new names may refer to both newly established settlements or to older ones that have changed in people's perceptions. Large owners' guilds are found in the middle of the northern resource or power area, while the few *torp*-names and smaller owners' guilds are located on the outskirts.

In central and south-eastern Stevns is a concentration of *inge*-names affected by i-umlaut and *lev*-names, with personal names as first elements, located around the large and centrally placed units of Store Heddinge and Frøslev, and again, *torp*-names and smaller owners' guilds are located on the outskirts. The fact that *inge*-names dominate in the south-eastern part may be due to a development where older *inge*-domains survived on the outskirts but were pushed further down in the hierarchy by new structures with new name types. The south-eastern area may be the original carrier of the name **Stæth-hēm*. If we envisage a third power area in Fakse Herred to the south-west, practically outwith the investigated area, this may correspond to the three power areas implied in the name *Tryggevælde*. With this in mind, the area around Tryggevælde, Hellested and Hårlev should be seen as a junction between these power areas and the actual centre of the Stevns region. Here, water courses and boundaries all meet, and there are strong indications of a sacral site, a monumental burial environment and possibly a magnate farm – although one such is yet to be archaeologically identified. This place may have served as a gathering point and possibly as a communal shrine for the areas that met here. In this, a special place is occupied by the region's only name ending in *-sted* because of its location centrally on

the boundaries between different power areas and because of its potentially sacral meaning. Also, archaeology points at the lands around Hellested, Tryggevælde and Hårlev as a regionally central area. The location, at the boundaries of *herred*-districts and by the water course, resembles that of the magnate farm at Tissø, located at Halleby Å on the boundaries between Ars and Løve herred-districts. Given this overall picture, Strøby Toftegård becomes a subcentre with access to the sea, perhaps comparable to the relation between the rich site of Melby near Kalundborg Fjord and Tissø.

The power areas thus appear to have had a slightly different layout prior to the formation of the herred-districts. In the suggestion presented here, the water courses play the role of unifying traits in the landscape, while the historical *herred*-divisions use water courses as boundaries. The Swedish place-name scholar Jöran Sahlgren has noted that these boundaries of *herred*-districts seem to reflect a planned and administered process applied 'top-down' (Sahlgren 1925). If the division into *herred*-districts does occur in the Late Viking Age, then it concurs with the abandonment of sites like Strøby Toftegård and Tissø and with a changed organisation of the landscape (cf. Lihammer 2003).

The place-name material from Stevns in the Late Viking Age and the Middle Ages gives the impression that the parcelling out and shifting about that occurred around 900–1200 was not as intensive here as elsewhere in Zealand. In north-western Stevns, the establishment of the *by*-settlements appears to take place in the Late Viking and Early Middle Ages, which concurs with the abandonment of Strøby Toftegård, while the founding of *torps* represents a slightly later phase (from 1200).

The suggestions presented here are only hypotheses shaped against a material which is, at times, rather thin, both with regards to the archaeological evidence and the place names, and they should be seen as a proposal for how to approach the area of Stevns in future studies.

Abbreviations

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| DK | <i>Danmarks Kirker</i> (Danish Churches) VI, bind 1 Præstø Amt (1933–35) published by the National Museum, Copenhagen. |
| DR | Number in <i>Danmarks Runeindskrifter</i> (Runic Inscriptions of Denmark), Jacobsen & Moltke 1942. |
| DS | <i>Danmarks Stednavne</i> (Danish Place Names) Published from 1922. Volume 1–15 by the Place Name Commity, volume 16–24 by the Institute for Name Research and from volume 25 by the Department of Name Research (later NorS).: www.danmarksstednavne.navneforskning.ku.dk |
| GDO | Gammeldansk ordbog (Dictionary of Old Danish): http://gammeldanskordbog.dk/ |

- KØM Records of Køge Museum archives.
- MB Field records, 1680'ies. Preparations for the cadastre of Christian V. Rigsarkivet, Copenhagen.
- MK Reform maps from the late 18th and early 19th century. Matrikelarkivet. Kort- og Matrikelstyrelsen. Copenhagen.
- NM The National Museum, collections of Danish prehistory.
- ONP *Ordbog Over det Norrøne Prosasprog*, (Dictionary of Old Norse Poetic Language) University of Copenhagen <https://onp.ku.dk/onp/onp.php>
- SB Parish description number in the topographic database at the Slots- og Kulturstyrelsen (Agency for Culture and Palaces) *Fund og Fortidsminder* (Finds and monuments): <http://www.kulturarv.dk>.
- VJB *Kong Valdemars Jordebog* (the Cadastre of King Valdemar) I–III, published by Svend Aakjær. Copenhagen 1926–45.

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Managing time: Expressing social memory in settlements from the Late Iron Age and Viking Age

Anna Severine Beck

Abstract

This article aims at discussing practices of social memory expressed in Late Iron Age and Viking Age settlements through an analysis of three memory practices: the inclusion of older monuments into settlements, the rebuilding of longhouses and, finally, the creation of monuments in the settlements themselves. The analysis is based on four Late Iron Age-Viking Age settlements of similar social context, structure and history: Strøby Toftegård, Lejre, Tissø and Järrestad. The analysis demonstrates that the settlements were established in relation to older monuments of varied character and date as a way of dealing with the long history of the landscape. Furthermore, it is argued that the large and central longhouses were often rebuilt in the same place during the period of inhabitation as a way of dealing with the near past and, finally, the analysis suggests that selected house sites and accumulations of burnt stones could have acted as monuments within the settlement as a way of bringing a certain version of the history into the future. All practices serve to actively create continuity between the past, present and future, and to maintain a sense of stability in the dynamic and unsteady society of the Late Iron Age and Viking Age. Memory practices are active elements in the processes of establishing, negotiating and re-negotiating the existence and role of the settlements in the local area. At the same time, the practices can be interpreted as expressions of the general temporal structures that defined how the inhabitants of the settlements perceived their own place in the world.

Keywords: Late Iron Age, Viking Age, elite settlements, multi-temporality, memory, the past in the past, continuity

When the large and rich settlement at Strøby Toftegård was established in the mid-7th century AD, it was not the first time in history people had occupied the place. Excavations at the site show that people had been living there for various periods during the Neolithic, the Late Bronze Age and the Iron Age, a few centuries before this settlement was established around AD 650 (Beck, Kildetoft Schultz & Tornbjerg, Chapter 1). In this article, I will argue that people in the Late Iron Age (which in this context covers both the Late Germanic Iron Age and Viking Age, or the period AD 550–1050 and which, in the following, is called the Late Iron Age for convenience) were aware of the previous

activities and deliberately incorporated these into their way of occupying and using the landscape as a way to manage time in an unstable and dynamic world.

The central role that kinship, genealogies, ancestors and historical events play on the contemporary rune stones, as well as in the later Eddas and Icelandic sagas describing the period, demonstrate that people in the Late Iron Age and Viking Age had a strong concept of the past (Arwill-Nordbladh 2007; Stenholm 2012, 61–75). However, the archaeological record shows that people not only related to the past in terms of storytelling and inscriptions but also in very concrete ways: through the active interaction with remains from the past.

A varied range of archaeological studies have, for instance, demonstrated how the reuse of older burial monuments for new burials was a common and deliberate practice in the Late Iron Age and Viking Age in Southern Scandinavia (e.g. Artelius 2004; Pedersen 2006; Thäte 2007; Larsson 2010; Ulriksen 2011; Stenholm 2012; Williams 2014; 2016; Eriksen 2016; Klevnäs 2016; Lund & Arwill-Nordbladh 2016). In a study covering the reuse of monuments in the Late Iron Age in Denmark, Southern Norway and Sweden, Ewa Thäte has shown that reuse practices were not directed at specific types of burial monuments or monuments from a specific period (Thäte 2007). Rather, it was the general habit of engaging with the physical remains of the past that was the consistent element in this practice. In this way, the past as a concept played an important and rather concrete role in burials and burial rituals in the Late Iron Age. Furthermore, the high frequency of high-status burials among the studied burials indicates that the practice of reusing older monuments had a social and political dimension as well (Thäte 2007, 276).

Whereas studies of the concept of the past in the relationship between burials and monuments are well represented in archaeological studies, the perception of the past through more mundane practices in settlements has been given less attention (Stenholm 2012, 38). We must assume that, in general, when new settlements were established during the Late Iron Age in Southern Scandinavia, they were not established in empty landscapes, but in landscapes abundant in traces from previous activities in the form of graves, monuments, earthen structures, culture plants and settlement debris – and therefore also in history. Histories of the landscape were probably eagerly shared and therefore widely known, but if nothing else, the persistence of the physical remains must have compelled inhabitants in the landscape to explain and make meaning of traces of the past in relation to their own present. However, not only was it crucial to create a meaningful past in order to settle in a landscape that already had a history, but also – over time – to relate one's own history to the stories told.

In the following, I will investigate settlement practices that express an active interaction with the past in order to understand how the past was used in the creation of social memory in the Late Iron Age. The aim of the article is to contribute new perspectives on the broader understanding of how people lived in a place and the temporal structures that guided everyday life in the Late Iron Age.

Concretely, the article is structured around an analysis of three kinds of memory practice: the inclusion of older monuments into settlements, the rebuilding of longhouses, and the creation of monuments within the settlement sphere. A look at the similar settlements of Strøby Toftegård, Tissø, Lejre and Järrestad, which have all been defined as dwellings for the social and political elite, will be the starting point. The aim of the article is not to produce an exhaustive study

of the phenomenon or to present an all-encompassing interpretation of the practice but, rather, the analysis is intended as a starting point for a discussion of the temporal concepts that existed and were actively employed in the Late Iron Age settlements – in this article and, hopefully, in future studies.

The four sites

The starting point for the analysis is the four Late Iron Age settlements of Strøby Toftegård, Lejre, Tissø and Järrestad (Fig. 17.1). In the analysis, the concrete practices that can be evidenced at these settlements will be juxtaposed and discussed in relation to each other. The sites have been chosen because of their similarities in terms of social context, the structure of the central settlement unit and their history of establishment and inhabitation; similarities, which have led to comparisons in other studies, too (e.g. Söderberg 2005; Jørgensen 2009; Christensen 2015). How explicit aspects of social memory have been discussed in relation to each site varies, and a broader analysis of how social memory is expressed across the settlements has not previously been done.

The settlement at *Strøby Toftegård* was established in the middle of the 7th century AD (Tornbjerg 1998; Beck & Kildetoft Schultz, Chapter 2) and located on a small plateau in the relatively flat and open landscape of Stevns, eastern Zealand (Kildetoft Schultz, Chapter 14) (Fig. 17.2). Traces of earlier activities dated to the Neolithic, Late Bronze Age and Iron Age have been identified at the site in the form of settlement features, graves and at least one longhouse. The last phase of inhabitation in the specific location happened at the transition between Roman and Germanic Iron Age and seems to consist of one short-lived farming unit. In that sense, there is no spatial continuity between the previous

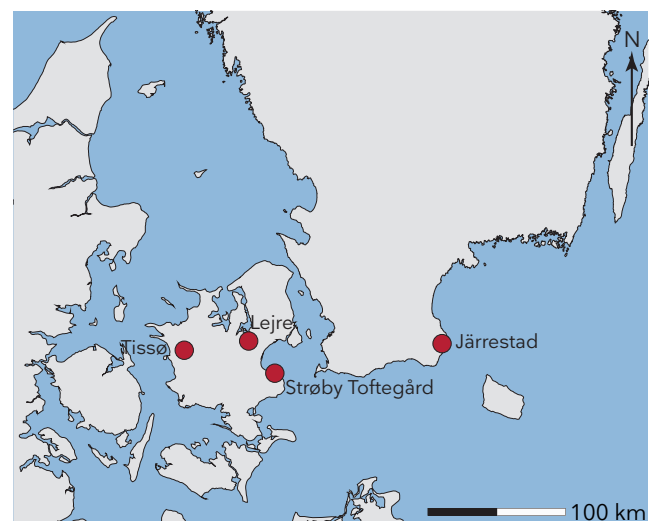


Fig. 17.1. The location of the four sites included in the analysis. Map: A. S. Beck.

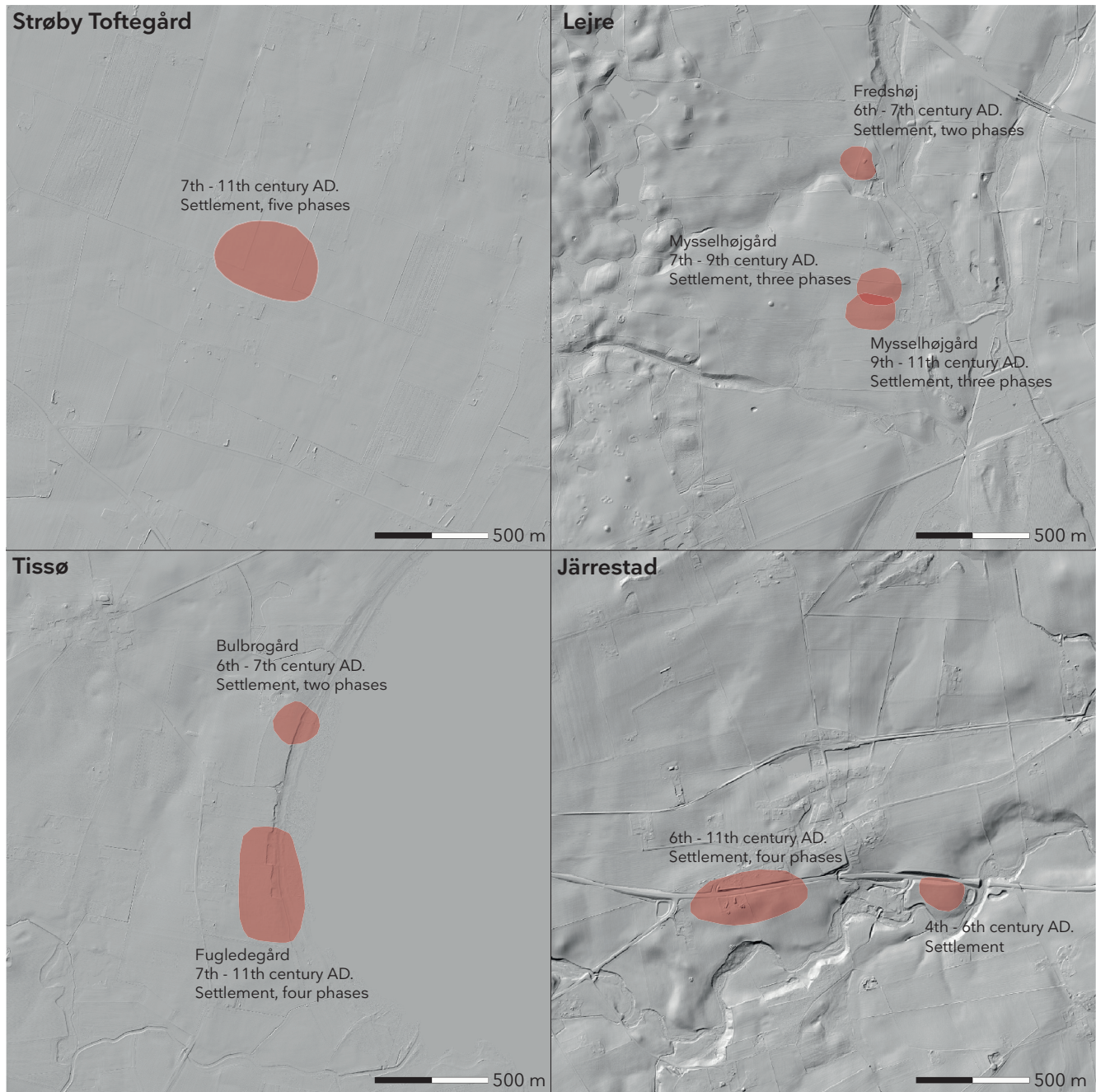


Fig. 17.2. The establishment and development of the settlements in their landscape context. Illustration: A. S. Beck.

occupation and the Late Iron Age settlement. The excavations showed that the Late Iron Age settlement at Strøby Toftegård consisted of up to nine contemporary dwelling units. One dwelling unit (Farm 1) stands out as having a higher social position due to its central location, large and well-built longhouses (35-39,5m) and a concentration of valuable and also imported artefacts (Beck & Kildetoft Schultz, Chapter 2). The settlement was given up at the end of the 10th century AD.

The large settlement at *Lejre*, central Zealand was established in the beginning of the 6th century AD at Fredshøj on a marked plateau on the western side of the stream, Lejre Å (Christensen 2015) (Fig. 17.2). A large longhouse (47 m) and a smaller longhouse formed the settlement structures. The excavations at Fredshøj showed that two smaller longhouses had been located in the same place a few hundred years before. The houses have tentatively been typologically dated to AD 200–400 and represent a small

dwelling unit in one phase (Christensen 2015, 59–60). There seems to be no continuity from the early occupation to the large longhouse that marks the beginning of the high-status residence at Lejre. During the 7th century AD, the residence was moved *c.* 500 m to the south to another marked plateau at Mysselhøjgård. In this location, the settlement had two major building phases, each with three to four phases of exceptionally large buildings (45–61 m). A large activity area with pit houses was located between the magnate farm and Lejre Å, but the extension of this has not yet been investigated. The site was abandoned or moved in the middle of the 11th century AD.

The rich settlement at *Tissø*, western Zealand has a similar story of establishment as Lejre. During the 6th century AD, a residence was established at Bulbrogård in the northern part of a plateau at the western shore of the lake, *Tissø* (Bican 2010a) (Fig. 17.2). No traces of earlier occupation were identified during the excavations. The Late Iron Age settlement was in that sense located on ‘new’ land (J. Bican, pers. comm.). Around AD 700, the site was moved 600 m further to the south, where the high-status residence was re-established at Fugledegård (Jørgensen 1998; 2002; 2009). At Fugledegård, four phases of large longhouses (35–48 m) enclosed by a palisade were identified. North and south of Fugledegård, an extensive activity area with pit houses was located. The settlement was abandoned in the middle of the 11th century AD.

At *Järrestad 45:1*, south-eastern Scania, a high-status residence was established in the middle of the 6th century AD at a prominent location on the northern side of the stream, Tommarpsån (Söderberg 2003; 2005) (Fig. 17.2). The occupation had four phases of large longhouses (37–50 m). During excavations, settlement remains and houses dated to the Late Bronze Age and Early Iron Age were found, but no traces that show a direct continuity to the occupation in the Late Iron Age (Söderberg & Hellerström 2003). Around the large longhouses, traces of a larger contemporary settlement have been found, though the investigations of this

element were limited. A neighbouring settlement (*Järrestad 50*), which has been excavated on another topographical plateau *c.* 600 m east of the high-status site, has been dated to AD 300–600 and the occupation is in that sense earlier and overlapping in time with the high-status site (Söderberg 2005, 83). The relationship between the two sites is not clear. As the older settlement exists simultaneously with the high-status residence, however, it seems unlikely that the inhabitants of the magnate unit originated from the older settlement. The rich Late Iron Age settlement was given up or moved in the middle of the 11th century AD.

All four case studies were established in the 6th–7th century AD, and they all seem to have been given up just before or during the 11th century AD (Fig. 17.3). Even though we must presume that these settlements were not established in completely unknown country, they all seem to represent a new phenomenon in the specific place at the moment when they were established. This notion of establishing a new settlement is a feature which is markedly different from other contemporary high-status sites that show a settlement continuity starting earlier in the Iron Age, such as Sorte Muld (200 BC–AD 850), Uppåkra (100 BC–AD 1000) and Gudme (AD 200–1000) (Michelsen & Sørensen 1996; Larsson & Lenntorp 2004; Adamsen *et al.* 2008; Jørgensen 2010).

The structure of the central unit of the respective settlements is also similar. All four settlements are built up around a central, high-status unit, consisting of a large longhouse, often with an associated enclosure with special buildings inside (Fig. 17.4). In some contexts, the large longhouses of the central unit have been designated as ‘halls’ (*e.g.* Herschend 1993; 1997; Söderberg 2005; Jørgensen 2009; 2011; Carstens 2015). The term has been used both to address the specific architecture of the longhouse and its probable function in cultic and representational contexts, but the ambiguous use of the term has made the definition of what it covers unclear and therefore problematic (Stenholm 2012, 173; Carstens 2015, 14). As a discussion of its definition is beyond the scope of this article, the more

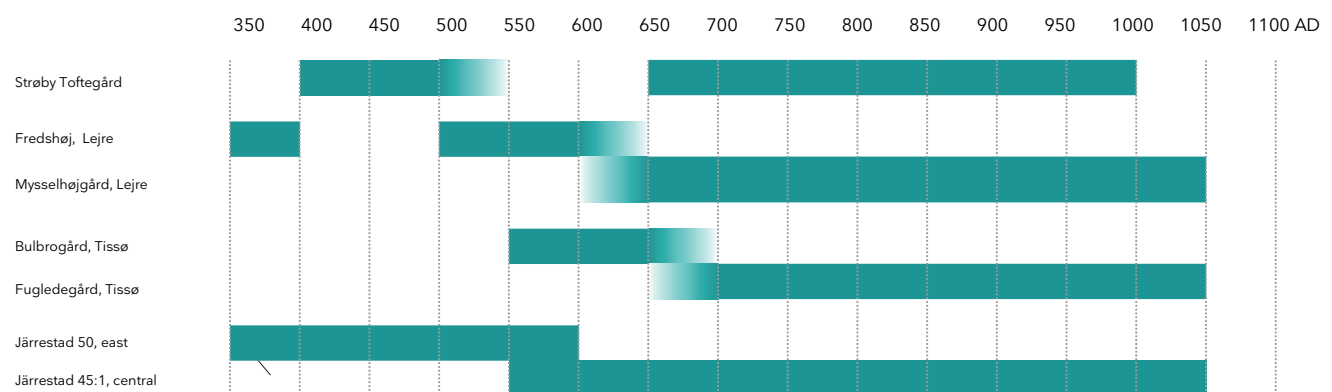


Fig. 17.3. Overview of the dates of establishment and abandonment of the four sites included in the analysis. Diagram: A. S. Beck.

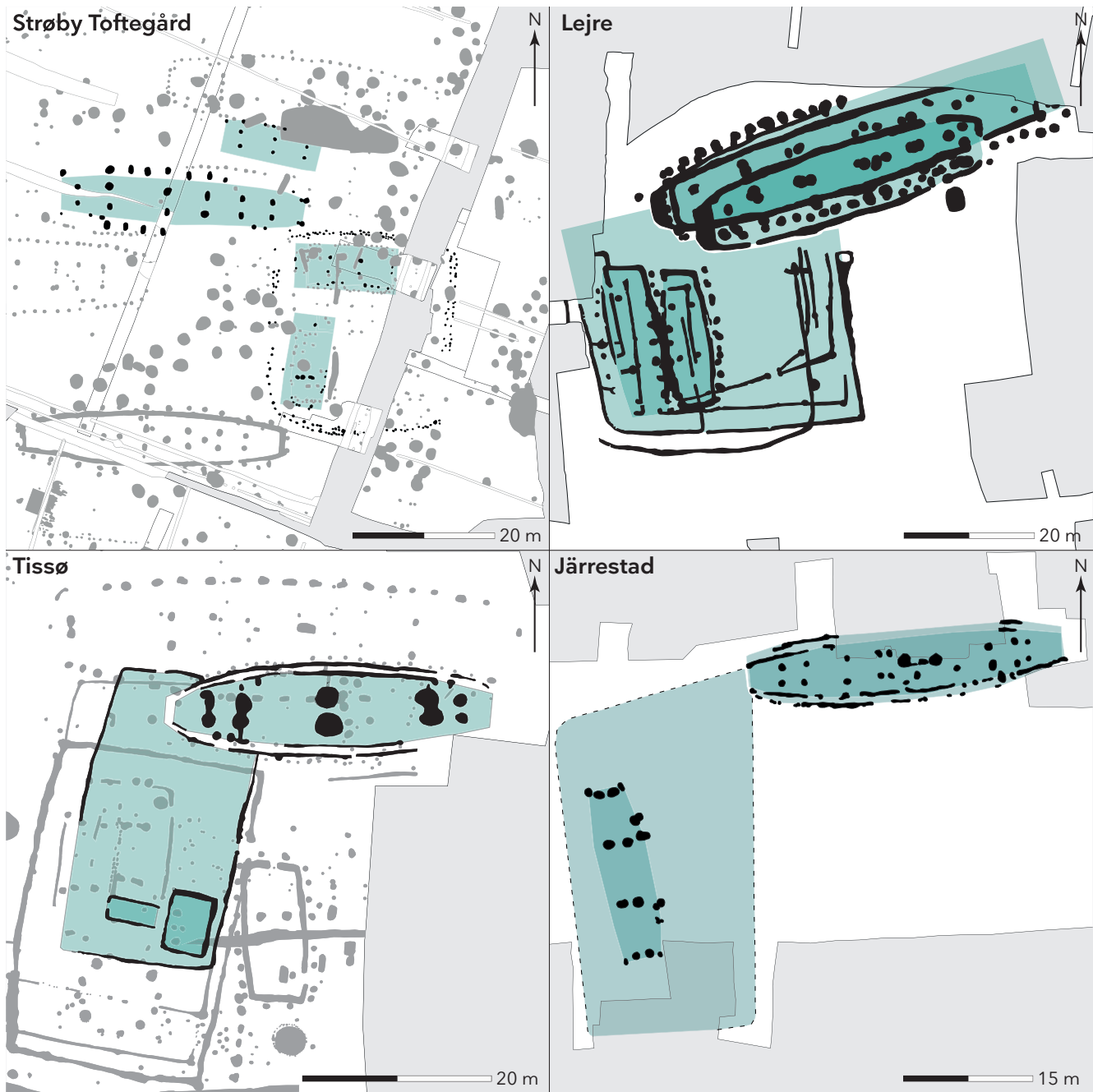


Fig. 17.4. Overview of the structure of the large longhouses and additional constructions in the period c. AD 650–700. Strøby Toftegård, House 5; Mysselhøjgård, Houses XL–XLII (redrawn after Christensen 2015, fig. 6.39); Fugledegård, House 10 (redrawn after Jørgensen 2009, fig. 14) and Järrestad, House 11/12 (redrawn after Söderberg 2002a, fig. 26). Illustration: A. S. Beck.

neutral description ‘large longhouse’ has been chosen to indicate that the longhouses in the central unit stand out from the other longhouses in the settlement. This does not exclude the idea that the large longhouses may have served representational and cultic functions within the settlement. Around the large longhouses at all four sites, houses and activities of varied character have been investigated. The find material from each site places the settlements among

the elite of the Late Iron Age society due to the quantity, quality and character of the artefacts.

In that way, the settlements were – at least archaeologically speaking – established on the same premises, and these similarities in their general character make a comparison of the sites a fruitful starting point for a comparison of memory practices used in the establishment and the inhabitation of the settlements.

Social memory as perception of the past

The question of how people in the past related to their own history is not a conventional question within the traditional, chronological archaeological narrative, where each period is carefully distinguished and separated from the others with the aim of creating an 'Iron Age only consisting of Iron Age' (Olivier 2001, 64). But instead of exclusively studying a specific period, this study aims to explore the relationships between periods, more specifically how people in the Late Iron Age perceived the past and its remains.

Over the last two decades, the study of the perception of 'the past in the past' has been given increasing attention within archaeology. The first studies related to 'the past in the past' were published in the 1980s and 1990s, particularly within British archaeology where the field developed parallel to and sometimes integrated with British landscape archaeology (e.g. Tilley 1994; Thomas 1996; Edmonds 1999; Johnson 2007). Since then, an ever-growing number of studies of the perception of the past in the past have been conducted in various archaeological contexts internationally (e.g. Bradley 1987; 1998; 2002; Bailey 1990; Rowlands 1993; Gosden 1994; Williams 1998; 2016, Tringham 2000; van Dyke & Alcock 2003a; Jones 2007), as well as in Scandinavia (e.g. Baudou 1989; Zachrisson 1994; Artelius 2004; Thäte 2007; Stenholm 2012; Eriksen 2016; Lund & Arwill-Nordbladh 2016). During the same period, studies have developed from addressing the rather narrow study of 'the past in the past' focused specifically on the reuse of older monuments to a broader study of the concept of social memory (Jones 2007, 3; Williams 2016, 403).

In general terms, *social memory* designates 'how communities remember' (Connerton 1989; Halbwachs 1992). Inherent in the term 'social memory' is the notion that memory is a social act, thereby separating it from the memory of the individual, though the two are internally dependable and interwoven (Jones 2007, 44). Where memories of the individual are personal, social memory constitutes the common reference within a group (Connerton 1989, 38; Stenholm 2012, 21). Social memory is made up of shared ideas, traditions, norms, histories, genealogies and sayings, all of which reach beyond the lifetime of the individual. Social memory relates directly to a shared past by establishing a link between previous experiences and the situation in the present, and this link creates a connection between contemporary identity and history (French 1995, 9; Stenholm 2012, 37). In other words, social memory designates the shared notion of why things are in a particular way in the present and it is based on a common perception of the past (van Dyke & Alcock 2003b, 2).

This sort of common perception of the past is only created when histories of the past are shared among people and furthermore transferred from generation to generation. Anthropologist Paul Connerton has described the process

of sharing memories as a combination of *inscribed* and *incorporated practices* (Connerton 1989). Inscribing practices use external medias, such as text, images, structures or monuments as tools for sharing history. In the Late Iron Age society, this practice is represented in, for instance, the performance and repetition of songs, stories and law texts at social events (Brink 2005, 91). Inscribing practices are often highly formalised and intentional (Hamilakis & Labanyi 2008, 12). Incorporating practices, on the other hand, use the body as instrument, and the term designates the kind of memory that is contained in habits, rituals and bodily practices. Through repeated, embodied practices such as movements and gestures, norms and ideas are acted out, but often in less intentional and less conscious ways than the inscribed practices (Olsen 2010, 122; Lucas 2012, 28). The embodied practices create experiences that are 'sedimented in the very movement of the body' as social memories (Jones 2007, 11). An illustrative example of incorporated practices is when people stand up as an important person enters the room. The gesture is a way of remembering and acknowledging the status of that person and at the same time confirming that relationship to all members of the community (Strathern 1996, 32).

Connerton's theory of incorporated practices highlights the central role of material practice in the formation processes of social memory where physical things play an important role as mnemonics (van Dyke & Alcock 2003a; Lucas 2005, 84–85; 2012, 205–210; Jones 2007; Olsen 2010, 109–110; Crossland 2014). In that way, the concept of incorporated practice links settlements and settlement practices with the more general concept of social memory and – in relation to the current study – with how the perception of the past is expressed and shared through settlement structures and practices (Jones 2007, 48).

The physical structure of the settlement constitutes in a very concrete way the spatial and social framework within which daily practices such as childcare, cooking, food production, crafts, seasonal feasting and religious rituals were conducted. Through location, organisation and building practices, the settlement directed patterns of movement, communication, access, experiences, viewsheds, etc., which in turn defined the possibilities for how daily practices within the settlement were performed (Bourdieu 1970; Carsten & Hugh-Jones 1995, 2–3; Ingold 2000). But simultaneously, the same settlement structure was created and recreated through the daily practices. The relationship between structure and practice is a dialectical and dynamic process where it is neither the physical structure nor the daily practice that create the other; instead, an entanglement of the physical settings and the practices presuppose each other in order to exist (Jones 2007, 37). A study of the settlement structure will therefore necessarily also imply a study of the practices that constituted the structure and vice versa.

The way in which the settlement structure interacts with the history of the landscape will convey a certain perception of the past through the daily practices, intentionally and unintentionally (Bailey 1990; Gosden 1994, 124; Tringham 2000; Jones 2007, 49; Lund & Arwill-Nordbladh 2016, 418). Because social memory is created in the present and thus closely linked to physical structures and material practices, it is open for intentional and unintentional political and ideological manipulations (LeGoff 1996, 98–99, 111–115). As many historical and contemporary examples show, social memory can play an important political and strategic role in the negotiations of power (e.g. Munn 1992, 109–112; van Dyke & Alcock 2003a; Thäte 2007). By controlling and managing the shared notion of the past, conditions in the present can be naturalised. One way of doing this is through the organisation of settlement structures. The existing social order, rights to power and ownership to land can in that way be legitimised in ways that become hard to challenge if it is, for example, deeply rooted in time (Bradley 1987, 3; Lucas 2005, 88). Through incorporated practice, the perception of the past will be transferred from person to structure, from structure to person and from generation to generation (Jones 2007, 48).

An important point made by Chris Gosden and Gary Lock in connection with studies of social memory is that the past is not just one phenomenon but several. A prerequisite for understanding people's practices in relation to the past is therefore to understand *which* past the practices are oriented towards (Gosden & Lock 1998). Following on from that, Gosden and Lock define two 'kinds of past': a *genealogical past* and a *mythical past* (Gosden & Lock 1998, 4–5). Genealogical past is when the antecedents are known in the way that they are direct forefathers, known from stories or in other ways are remembered and can be named. Mythical past is the past that lies beyond actual memory. In a mythical past, the antecedents are not known, but are given the role of mythical ancestors. The two kinds of past are linked and exist simultaneously, but they will be differently balanced according to the context.

Even though the distinction between mythical and genealogical past has been criticised for being too dichotomous, it is useful as a model on a general level because it points out the differences in the perception of the past and in the perceived 'pastness' of the past – a condition that will impact on the practices chosen. The practices linked to a known past often repeat the practices of the antecedents, thereby creating a direct link to the past, whereas in relation to a more distant past, practices will have to add new meanings to ancient features (Lund & Arwill-Nordbladh 2016, 421). The difference defines the degree of 'creativity' that is involved in establishing a relationship with the past through practice, and this serves as a fruitful background for understanding the concrete choices of settlement practices in the context of the following analysis.

Incorporating ancient monuments

Since the Neolithic, through the Bronze Age and Iron Age, large and small burial monuments were built in the landscape to honour and commemorate the dead (Fahlander & Oestigaard 2008). These monuments made a major impact on the landscape. Even centuries or millennia later, when the memory of the buried persons had long gone, the physical monuments continued to be present in the landscape where the Late Iron Age settlements were later established. This part of the analysis will target the ways in which such newly established settlements relate spatially to these ancient monuments in the landscape.

At Strøby Toftegård, the settlement was established c. 250 m south of the burial mound of Toftehøj (Kildetoft Schultz, Chapter 14) (Fig. 17.5). Today, Toftehøj is only visible as a low knoll in the surface of the field. What can be observed today is only the last remains of the monument, and the mound must have been more prominent in the Late Iron Age. In the Danish National Sites and Monuments Database (*Fund & Fortidsminder*, SB 050612–1), the mound is described as partly destroyed in 1820 and finally removed in 1895. A small excavation of the mound in 2012 showed the remains of a central, stone-built grave which broadly dates the mound to the Neolithic (Beck 2013). The information from the National Database of at least two additional stone-built graves and a Late Bronze Age urn found during the demolition of the mound indicates that the mound had been reused several times during its life span, although the dates of these reuses are not known more precisely.

The mound must have been clearly visible from the central farm of the settlement, and settlement features both south and north of the mound show that the settlement at some point surrounded the mound. These features include postholes, a shallow cultural layer and a deep pit. In the pit, sherds of Viking Age ceramics, a whetstone, bone fragments and other typical settlement debris were found. As the excavations in the area have only been limited, the extension and character of the settlement in the area is not fully known, but the close relationship between the mound and the settlement indicates that the mound was incorporated into the settlement.

However, the Neolithic mound was not the only burial in the area, as the central farm was established on top of a small urn field dated to the Late Bronze Age. Five, probably six, urns were found during the excavation of the central farm (Woller 1998, 8). One urn was relatively well preserved whereas the others were more heavily damaged by modern ploughing (Fig. 17.6). All urns contained burnt bones. Grave goods were only found in grave B (a needle, a double button and a razor, all made of bronze) and grave D (a small bronze button) (Woller 1998, 86–87). Five urns were placed in a group within a distance of less than 10 m from each other, whereas the sixth possible urn was placed 20 m south-west of the group.

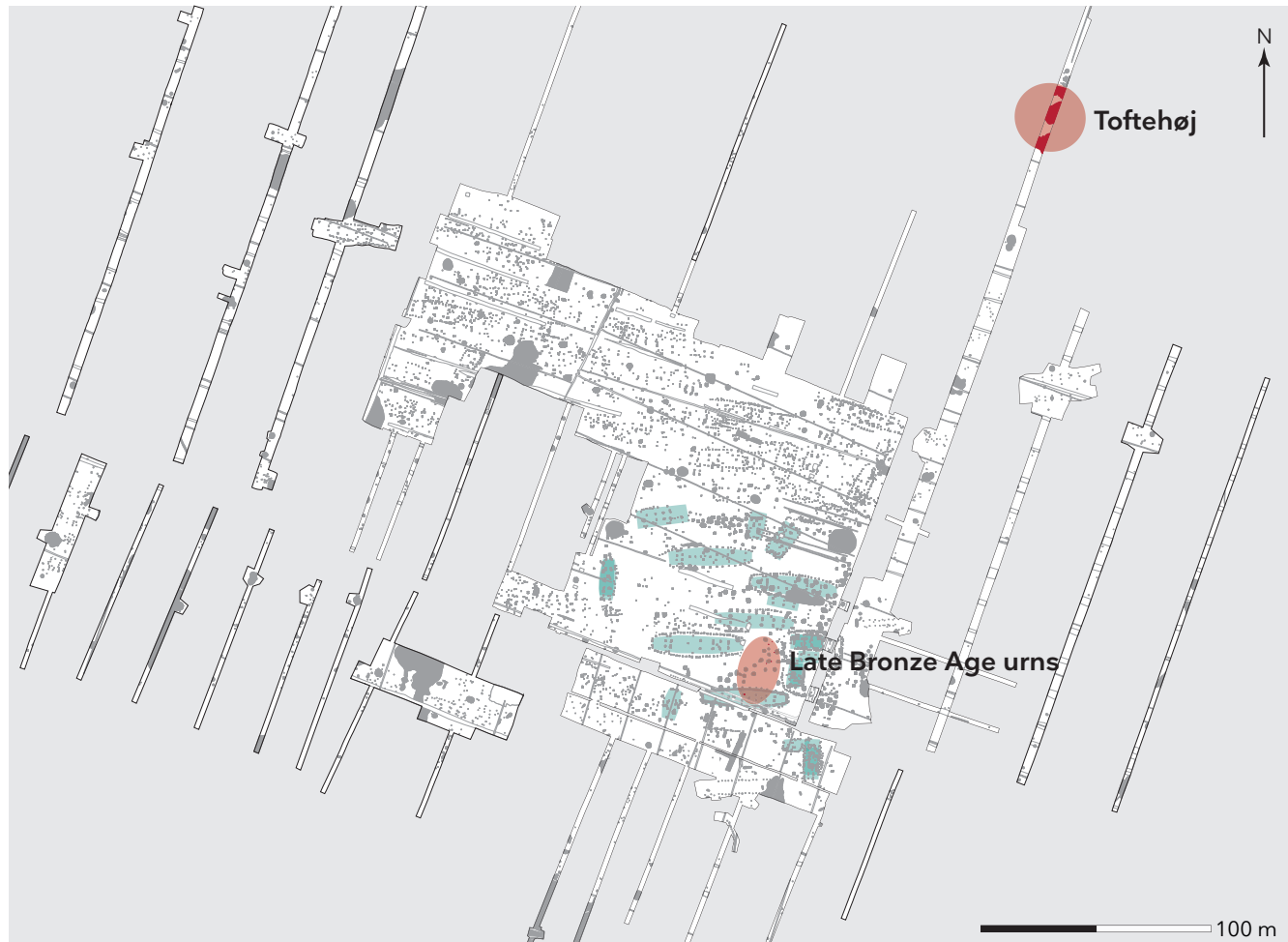


Fig. 17.5. Older grave monuments at Strøby Toftegård. Toftehøj is a Neolithic mound. The longhouses of the elite residence are highlighted. Among the houses, five, possibly six, urn burials were found. Illustration: Museum Southeast Denmark.

At the central farm, the large longhouse, House 5, which is thought to be the first longhouse of the magnate farm, is located immediately north of the urns (less than 6 m). House 4, which is thought to belong to the subsequent phase of the farm, is built on top of one of the urns, and the small fenced-off area, thought to belong to both Houses 4 and 5, is situated just east of the group of urns (Fig. 17.7). The location gives the impression that the central farm was perhaps purposefully built around the urn field.

The question is whether the urns had been marked with small barrows, or were in other ways identifiable and visible, when the Late Iron Age settlement was established. Small barrows (often down to 5 m in diameter) are known to have been erected as markings of urn graves during the Late Bronze Age (Jensen 2002, 385–386). In northern Stevns, close to Strøby Toftegård, grave fields with small Late Bronze Age mounds are known, for example from Gjorslev Bøgeskov and Magleby Skov where a large number of mounds of this type have been preserved. The

occurrence of this type of monument in the local area could indicate that such markings had been common, even though Late Bronze Age urn fields without barrows are also known. If the urns were once marked with small barrows, the barrows must have been removed quite early in the existence of the settlement, probably already at the building of the first longhouse and at the building of House 4 at the latest. Otherwise, they would have been in the way of access to House 5 and to the small fenced-off area between Houses 4 and 5. When House 5 was built, it may have been erected on an artificial platform (Beck & Kildetoft Schultz, Chapter 2). Although it is speculative, one possibility is that material from the hypothetical barrows could have been used to build the platform. Older material, including flint flakes and flint tools dating to the Neolithic or the Bronze Age, was found in House 5 and some of the other, nearby longhouses. The majority of these older finds were discovered in House 5, though (Table 17.1), indicating that the filling in the postholes of



Fig. 17.6. Grave A during excavation. The urn is dated to the Late Bronze Age and contained the burnt bones of an individual but no grave goods. Photo: Museum Southeast Denmark.

House 5 could originate from somewhere other than the regular field surface. However, as the platform was not recognised during the excavation, the material from the platform could not be investigated archaeologically, and it thus remains speculative whether material from older mounds was, in fact, used here. Nonetheless, if the interpretation holds, it could be argued that the older monuments had been actively built into the new settlement.

All in all, the archaeological record from Strøby Toftegård indicates that the settlement actively related to the older monuments within the area. A Neolithic mound was incorporated into the settlement, and the central farm was, whether intentionally or not, built around a small urn field from the Late Bronze Age.

When the settlement at Fredshøj, Lejre, was established, the large longhouse (House 2) was built less than 10 m from the burial mound of Møllebjerget (Christensen 2015,

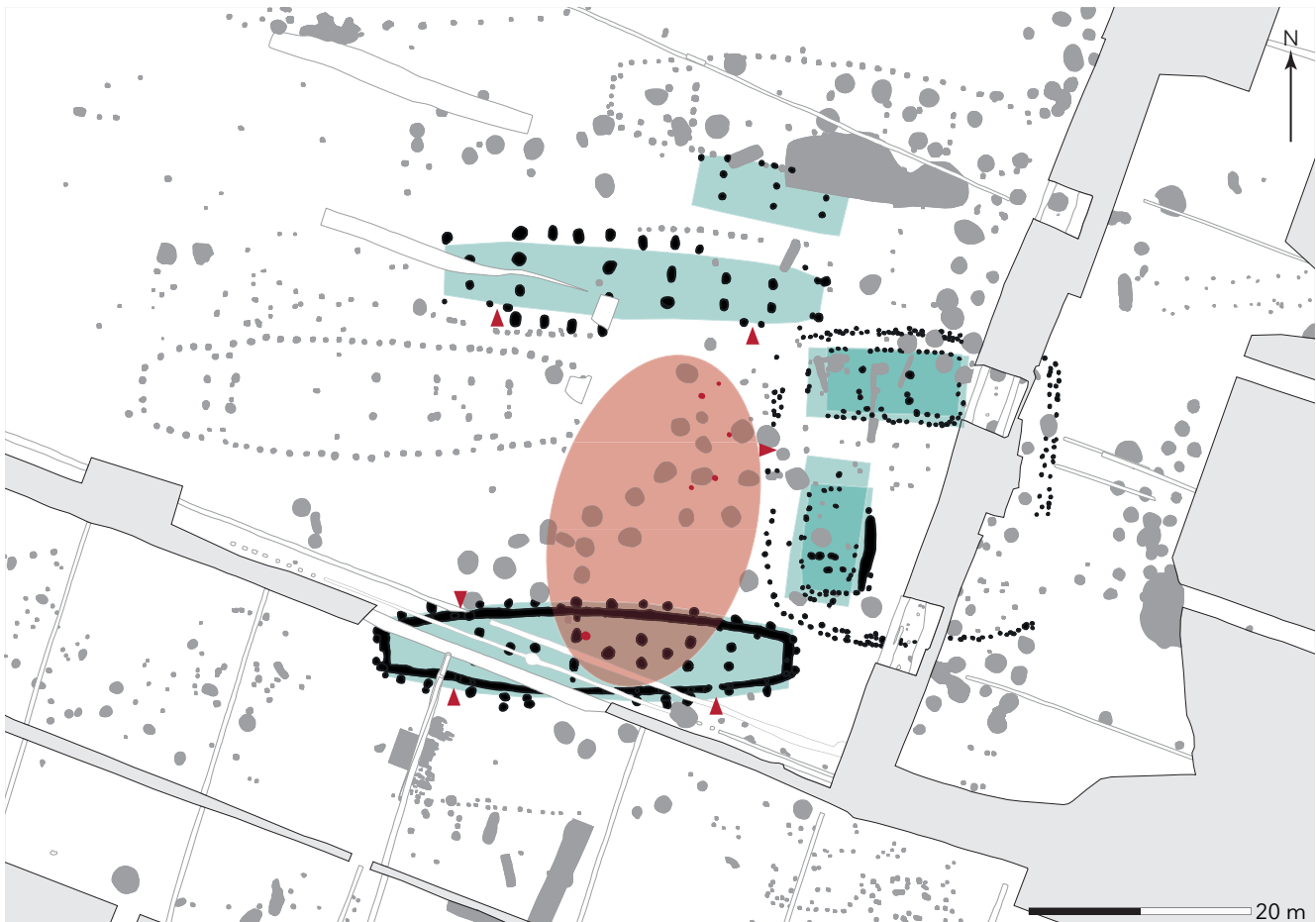


Fig. 17.7. The urns dated to the Late Bronze Age are highlighted. Houses 4 and 5 are the first of the large longhouses. Between Houses 4 and 5 is a small enclosure with houses in several phases, probably belonging to both phases of the large longhouses. Entrances to the longhouses and the enclosure have been marked. The cooking pits between Houses 4 and 5 belong to the following phases of the settlement and have therefore not been there when Houses 4 and 5 were built or in use. Illustration: Museum Southeast Denmark.

81–93) (Fig. 17.8). Møllebjerget has not been excavated but probably dates to the Bronze Age. Even though the mound has been heavily disturbed during modern times, it is still visible today and must have been even more prominent in the Late Iron Age. The short distance between the mound and the longhouse indicates that the longhouse was built in direct relation to the older monument. Other locations could

easily have been chosen north and west of the mound, and, with this in mind, the actual location of the large building must have been chosen quite deliberately.

When the settlement moved south to Mysselhøjgård in the middle of the 7th century, it also moved to a location with an older mound, in this case Kirkehøj, which was a Neolithic passage grave. As foundation for the large, main longhouse, an artificial platform was constructed. The platform is described by the excavator Tom Christensen as containing turf, even though it does not seem to be a regular turf construction. Based on the occurrence of turf material, as well as the finds of two bronze buttons and a tutulus — items that are normally found in Bronze Age graves — Christensen suggests that some of the material for the platform was taken from a now unknown Bronze Age mound in the area (Christensen 2015, 122). In that way, the past was literally ‘built into’ the present of the settlement, a situation that may be paralleled to the possible situation at Strøby Toftegård. On the whole, there seems to have been an active relation between ancient monuments and the

Table 17.1. Finds of flint flakes and flint tools in the longhouses around House 5.

House	Flint flakes	Flint tools
House 1	1	0
House 2	3	0
House 3	0	0
House 4	0	1 1/2
House 5	8	0
House 6	0	0



Fig. 17.8. The settlement at Fredshøj, Lejre. The large longhouse, House II, and Møllebjerget, a Bronze Age mound, are highlighted (redrawn after Christensen 2015, fig. 5.2). Illustration: A. S. Beck.

settlement, both when the residence was first established at Fredshøj and later when the settlement site moved to Mysselhøjgård and to some degree had to start over.

At Bulbrogård at Tissø, the settlement was established in the middle of the 6th century and consisted at that time of a large hall and a smaller longhouse within a fenced-in area. A large palisade surrounded the plot (Bican 2010a). Along the shore of Lake Tissø, burials from various periods have been found. Just 100 m south of the settlement at Bulbrogård, 11 Late Neolithic graves, two Late Bronze Age urns and one grave from the Early Roman Iron Age were identified (Bican 2010b) (Fig. 17.9). Bican argues that the graves might have been marked on the surface, but if so, only with rather shallow mounds, as some of the graves are intercutting (Bican 2010b, 30). Furthermore, a Late Iron Age pit house is cutting one of the Neolithic graves, confirming the impression that the graves were not visible as prominent monuments in the landscape. Further south, more burials, also dating to the Late Neolithic and Late Bronze Age, have been found. Thus, even though each individual grave was only marked by a small mound and was therefore not prominent as a monument in itself, the combined number of markings may well have been conspicuous in terms of giving the impression of an ancient necropolis that people in the Late Iron Age had to relate to in some way. Whether this was the case or not will nonetheless remain speculative.

When the settlement moved south to Fugledegård, the large, central longhouse was built less than 20 m north of a group of four burials dated to the Roman Iron Age (Fig. 17.10). Whether they were marked when the longhouse was built cannot be determined from the archaeological record, but it is clear that, if the graves were marked, the markings must have been removed during the period of habitation, because a house from the last phase was built on top of one of the graves. With the movement and re-establishment of the settlement, the spatial relationship to older graves became closer and more direct, even though it cannot be ascertained whether the relationship was intentional or coincidental. In conclusion, the relationship between the two phases of the settlement and the older burial monuments is not as obvious as in the cases of Strøby Toftegård and Lejre, but it cannot be rejected either that the high number of older burials in the area in general could have played a role in the establishment and location of the settlement.

The settlement at Järrestad was established around AD 650. There were only few traces of previous activity in the area, but c. 30 m southwest of the large longhouses a Late Bronze Age urn grave was found (Söderberg 2002a, 42–43). According to *Fornsök*, the Swedish National Sites and Monuments Database, other urns have been ploughed up in the area over time, maybe stemming from what was originally a small urn field (RAÄ Järrestad 45:3). Today, there are no traces of barrows or other markings on the

surface. East and north-east of the settlement, several Neolithic graves have been found, two of them still marked by a mound. The closest mound is located within a distance of 100 m of the large longhouses and could, at least in theory, have been incorporated into the settlement in the same way as Toftehøj was at Strøby Toftegård (Fig. 17.11). No excavations have been done in the area and a possible relationship can therefore neither be confirmed nor disproved.

The excavator Bengt Söderberg does not see a specific connection between the magnate residence and the urn(s) from the Late Bronze Age, but he calls attention to the names of the two Neolithic mounds, which were called Jarladösen (the earl's dolmen) and Jarlfruns dö (the wife of the earl's dolmen), respectively. Even though the names were probably given later, Söderberg's thesis is that they may reflect a historical link already created in the Late Iron Age between the inhabitants of the large longhouses, their likely social position and the ancient monuments (Söderberg 2002b, 303). Furthermore, Söderberg emphasises the monuments and the history of the landscape more generally as an important reason for the location of the magnate residence (Söderberg 2002b, 306–307). In that sense, an active relationship between the monuments and the settlement may be assumed, even if the settlement and mounds are not physically linked.

The four settlements presented here were all established in landscapes that were rich in ancient monuments, and it seems that they were carefully located in direct relation to these, although this is not equally clear in all cases. The monuments connected to the four sites included in the analysis are of varied type and dates, spanning Neolithic megalithic monuments, Late Neolithic graves, Bronze Age mounds, Late Bronze Age urns and Early Iron Age graves. The variation demonstrates that it is not one kind of monument or any one specific period that is perceived as particularly relevant in the Late Iron Age. Rather, the monuments represent a general idea of an ancient past, as had also been pointed out by Thäte in relation to the reuse of existing monuments for later burials (Thäte 2007).

At Strøby Toftegård, Lejre and Fugledegård, the relationship between ancient monuments and the settlements was acted out as a direct spatial relation, where houses were either placed on top of or right next to older graves, or monuments were incorporated, even built into the settlement. At Bulbrogård and Järrestad, a general spatial relationship could be identified, though it was more hazy and, in some cases, speculative.

The question is whether the spatial relationship was intentional or arose by mere coincidence. For the relationship to be intentional, the burials need to have been recognisable at the time of the establishment of the settlement, either in the form of visible monuments or markings, or in stories and memories about a site. Because of the preservation

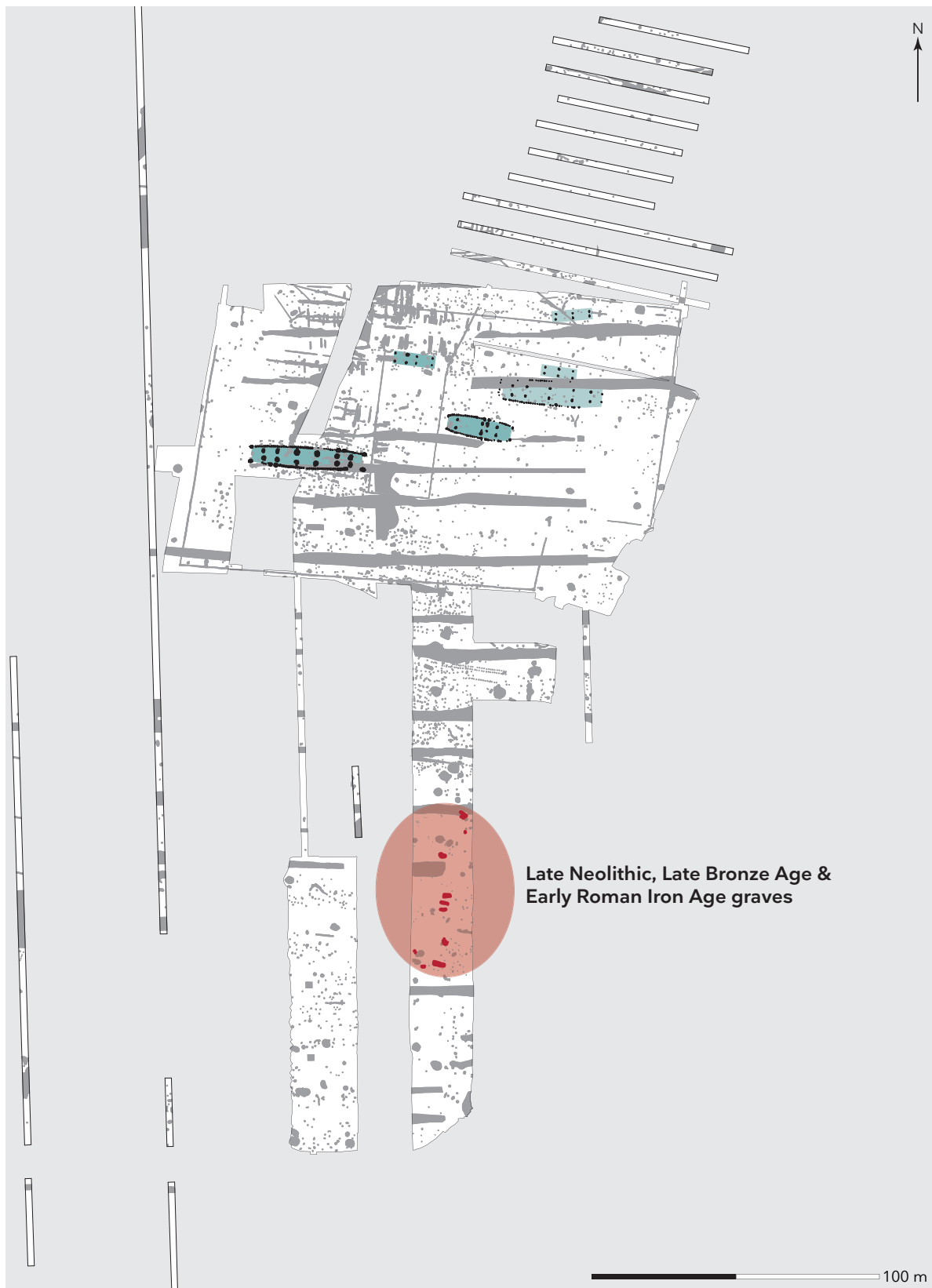


Fig. 17.9. The settlement at Bulbrogård, Tissø. The longhouses are highlighted. A group of graves dated to the Late Neolithic, Late Bronze Age and Early Roman Iron Age were found south of the settlement. Illustration: A. S. Beck.



Fig. 17.10. The central part of the settlement at Fugledegård, Tissø. The large longhouses and additional longhouses are highlighted. A group of four graves dated to the Early Roman Iron Age were excavated just south of the hall site. Illustration: A. S. Beck.

conditions of the archaeological sites in modern cultivated fields, it is in many cases not possible to determine whether the graves were visible on the surface in the Late Iron Age. Instead, an investigation into similar practices in the broader archaeological material can be a way of obtaining an impression of whether or not this was a more widespread phenomenon in the Late Iron Age.

Without providing any exhaustive overview, several examples of contemporary settlements with a close relationship to older burials can be mentioned: Just 800 m west of Strøby Toftegård, the settlement at Kastaniehøj was established right next to a mound from the Bronze or Iron Age (Sørensen 2000, 7). Also, the large settlement

area at Uppåkra, Scania, included at least four Bronze Age mounds (Larson & Lenntorp 2004, 39). At Lockarp, also in Scania, a magnate farm was established in the late 10th century on top of a small urn grave field from the Late Bronze Age (Heimer, Ifverson & Persson 2006, 26–27). At the high-status settlement at Slöinge, Halland, a prehistoric, albeit hitherto undated, grave field was found just south of the settlement (Lundqvist 2000, 20). In western Denmark, a large settlement was established at Langvang, right next to a mound which originated in the Late Neolithic (Sørensen 1988). The mound had furthermore been reused for burials several times, lastly in the Late Germanic Iron Age (around AD 600). Also, the recently investigated magnate farm at

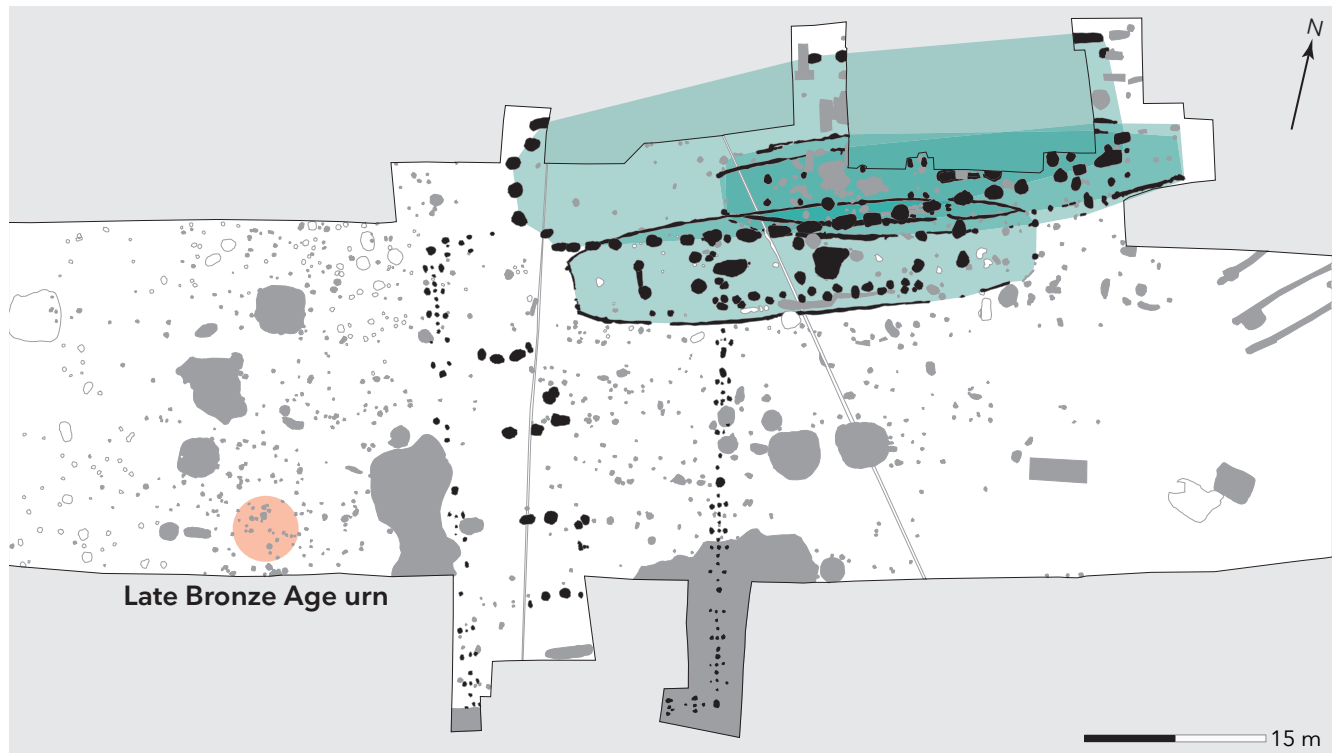


Fig. 17.11. The settlement at Järrestad. The large longhouses are highlighted. The location of the urn dated to the Late Bronze Age has been indicated (reworked after Söderberg 2002a, fig. 25). Illustration: A. S. Beck.

Toftum Næs was located between two groups of graves from the Early Roman Iron Age (Terkildsen 2014; Jessen & Terkildsen 2016) (Fig. 17.12).

Not all settlements show a direct relationship to older monuments, though. No older graves have been found at, for instance, the settlements at Sædding, Trøjbjerg, Omgård or at the 9th-century settlement at Aggersborg (Stoumann 1980; Nielsen 1980; 1987; Jørgensen & Eriksen 1995; Roesdahl, Sindbæk & Pedersen 2014). Nor does the settlement of Bøgelund, 4 km south of Strøby Toftegård, show any direct links to older monuments (Tornbjerg 2002), nor do the contemporary settlements at Sletten, Vestervang and Gevinge-Nødager (Beck, Lauritsen & Tornbjerg 2005; Kastholm 2008; Ulriksen 2008), just to mention a few. Omgård and Aggersborg are interpreted as belonging to the same social strata as the four case studies.

In conclusion, the general image from the archaeological record is that a spatial link between older monuments and settlements can be identified at many sites where the monuments are incorporated into settlements in a variety of ways, but not at all sites. It is remarkable that the settlements that do have a clear connection to older monuments tend to be sites interpreted as having a high social status (e.g. Uppåkra, Slöinge and Toftum Næs), whereas a connection to older monuments seems to be less prominent at more ordinary settlements. This pattern may indicate that

a deliberate choice was involved in the creation of the link between some settlements and the deep history embedded within the landscape.

When looking to interpret this practice of creating links to older monuments, it probably had both a mythical and a political dimension. The temporal distance between the building of the monuments and the establishment of the settlements is, in all cases, of a duration where the inhabitants had no chance of being related to those who originally built or were buried in the monuments. Following Gosden and Lock, the monuments belong to a deep and mythical past where the buried people represent mythical ancestors (Gosden & Lock 1998). This means that a new connection between the past and the present had to be created in order to make the past relevant. By crafting a physical association between the settlement and the monuments, the mythical ancestors became directly linked to the everyday landscape of the inhabitants and in that way became part of a new history by providing a mythical framework.

That these practices could also have a political dimension is indicated by the Early Medieval concept of *odal*, which has been studied in an archaeological context by Torun Zachrisson (Zachrisson 1994). The concept is known from the Early Medieval provincial laws of Norway and Sweden (e.g. Gulatings law, Frostatings law, the Östgöta and Västgöta laws) and from Snorri Sturluson's *Edda* (Zachrisson

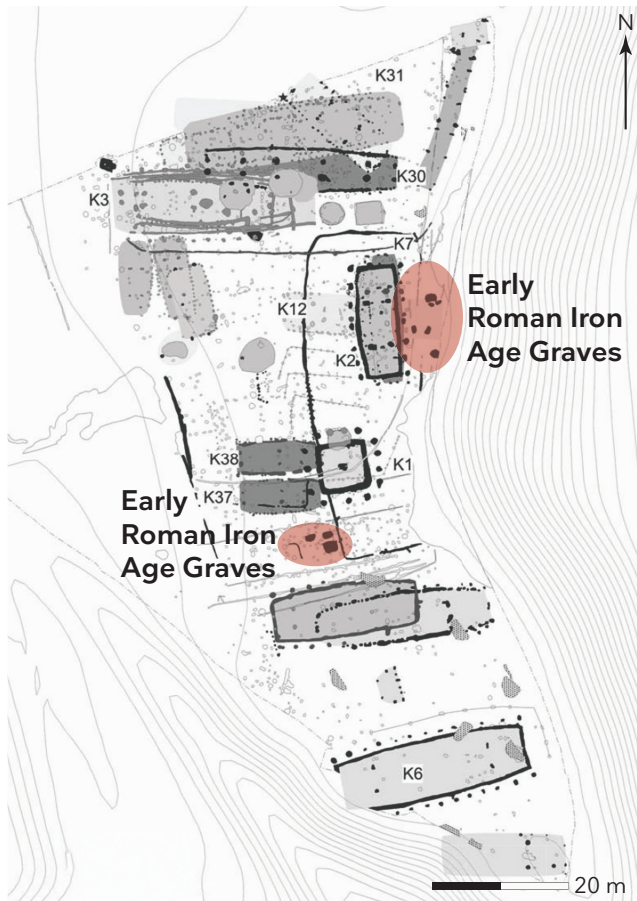


Fig. 17.12. The settlement at Toftum Næs. All longhouses are highlighted. Two groups of graves from the Early Roman Iron Age were found at the same site as the Late Iron Age settlement (reworked after Jessen & Terkildsen 2016, fig. 2). Illustration: A. S. Beck.

1994, 220; Thäte 2007, 277) where the term *odal* designates ‘inherited land’ or ‘patrimony’. The phenomenon (and etymology) of *odal* is closely related to the Nordic word for nobility, *adel*, and in order to obtain ‘odal-rights’ to the land, according to the laws, the land must be inherited through four to six generations (Robberstad, Lárusson & Hafström 1967; Zachrisson 1994, 221). The concept indicates a temporal dimension inherent to the connection between genealogy, the past and special rights to land. Several of the Early Medieval law texts (e.g. Östgöta and Västgöta law) explicitly describe an ‘odal farm’ as a farm that has an ancient mound on its land. Following this, Zachrisson suggests that a close connection between a farm and ancient monuments may have functioned as a material expression of the *odal*, also before the Early Medieval. By physically demonstrating a close relationship between the inhabitants and the ancestors, the inhabitation (and thereby ownership) is ‘proved’ as stretching far back in time (Zachrisson 1994, 226; Thäte 2007, 277). In relation to the newly established settlements at Strøby Toftegård, Fredshøj, Mysselhøjgård,

Bulbrogård, Fugledegård and Järrestad, the physical connection to ancient monuments can in that way be interpreted as a way of legitimising their establishment. By actively creating a link to the deeper history of the landscape, they are creating a social memory associated with the place, and this, in turn, yields an obvious right to settle.

To conclude, the relationship between settlements and older monuments seems to be intentional and to have both mythical and political dimensions. However, there seems to be no strict formula for how to this relationship may be acted out. Direct links to the deep history of the landscape are created either by locating the settlement on top of old graves, by locating central buildings in direct reference to a monument or by incorporating such a monument into the settlement more generally. By incorporating ancient monuments into the settlement, a direct physical connection with the history of the landscape and the ancestors was created. The social memory of the landscape was in that way not only transferred through inscribed practices, as narrated in formal stories and songs, but also as a physical relationship that the inhabitants were reminded of when moving around in the settlement and through seeing the ancient monument on a daily basis. In this way, the practice created continuity between a deep, mythical past and the present, and this may have played a major role in negotiating ownership to land and power, but it may also express a more general idea about how the inhabitants perceived their own place in the world.

Rebuilding the longhouse

When the lifespan of a settlement lasted longer than the individual longhouse, the house would at some point need to be rebuilt, because the timber used only had a limited durability when fixed in the ground (Zimmermann 1998). During the rebuilding process, reuse of the plot of land where the previous longhouse had been, the house site, could be necessary or even desired. This part of the analysis will focus on the practice of rebuilding houses and reusing sites in the four case studies. Particular attention will be paid to the practices around the large longhouses in comparison with the other longhouses in the central units of the settlements.

The central unit at Strøby Toftegård had a lifespan of c. 350 years, and five large longhouses were identified as belonging to the central unit. Similarities and differences between the individual longhouses make it plausible that the houses represent one longhouse that was rebuilt five times in a sequence starting with House 5 and ending with House 2 (Fig. 17.13), rather than being contemporary buildings (Beck & Kildetoft Schultz, Chapter 2). Each time a new, large longhouse was built, the building site was moved to a new location within the unit.

The other longhouses within the central unit show a different rebuilding process. Several of the smaller longhouses

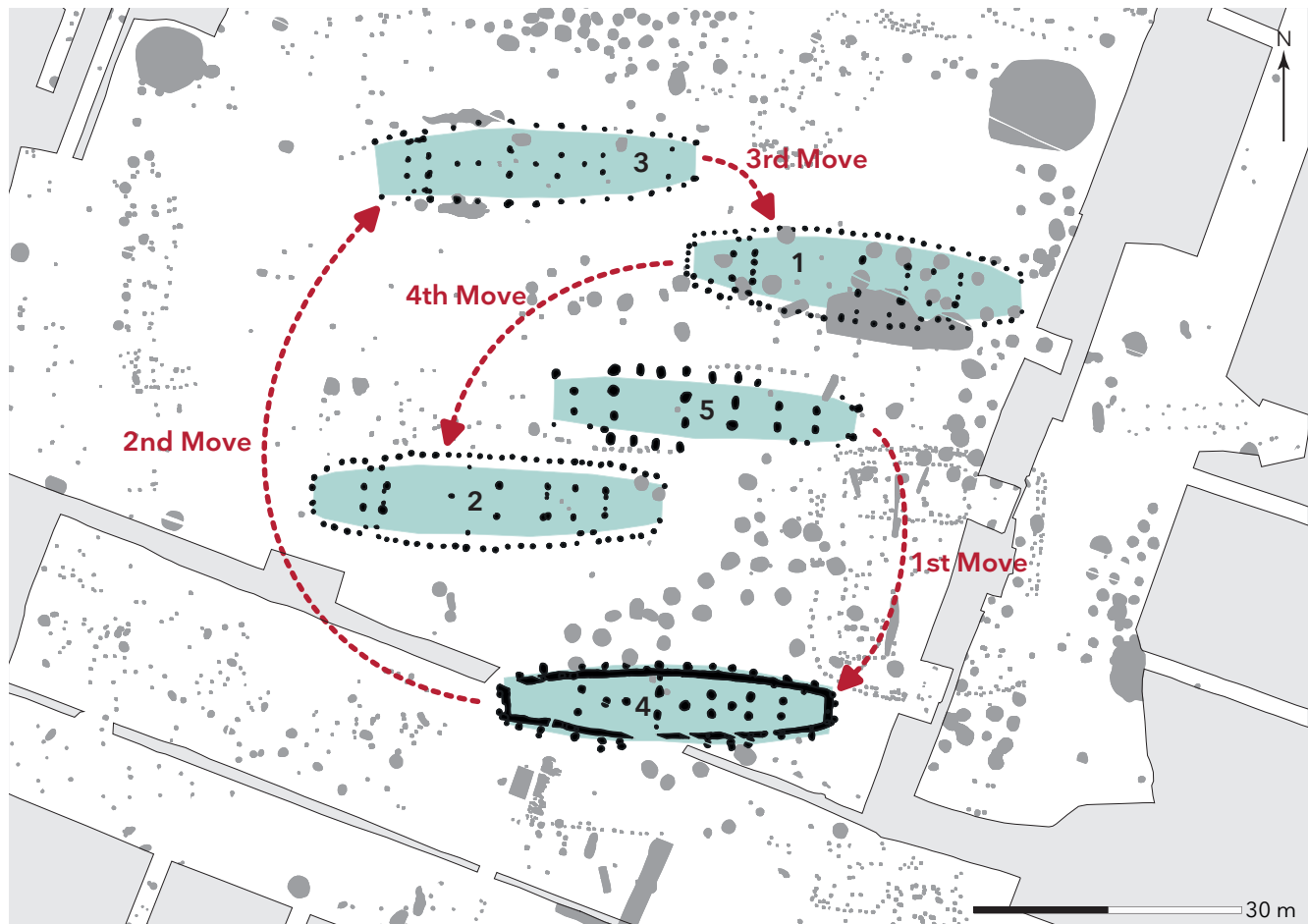


Fig. 17.13. The sequence of large longhouses at Strøby Toftegård. None of the large longhouses has been rebuilt in the same location as its predecessor. The house numbers refer to the number they were given during the excavation and have nothing to do with the chronological sequence of the longhouses. Illustration: Museum Southeast Denmark.

were rebuilt on top of a predecessor of similar construction, reusing the same site as well as architecture (Houses 7 and 91, Houses 9 and 90, Houses 79 and 83, Houses K303 and K305). In one case, one longhouse was rebuilt in one phase (Houses K303 and K305) but placed perpendicular to a previous or later building (K302). Houses 6, 8, 40, 46 and K301 do not seem to have been rebuilt.

As can be seen, the practices around the rebuilding of longhouses differed. The large longhouses were moved to a new location for each rebuilding, whereas the smaller longhouses were either rebuilt in the same location or not rebuilt at all.

In Lejre, the settlement at Fredshøj had a lifespan of just over a century, and two possible phases of large longhouses were identified, though there are some uncertainties about the character of the longhouse belonging to the later phase (Christensen 2015, 81; Christensen pers. comm.). The two large longhouses were built on the same site as the later house (House III), only a little displaced to the north of the first longhouse at the site (House II) (see Fig. 17.8).

To one of the phases (or both) belong Houses VI, VII and VIII, which all seem to have had one building phase with no reuse of the site.

Subsequently, the settlement was moved to Mysselhøjgård where it existed for at least 400 years. The earliest, large longhouse built there was located on an artificial platform and was rebuilt on the same site at least three times, resulting in a sequence of large longhouses (Houses XL, XLI, XLII) (see Fig. 17.4). Later, a new sequence of large longhouses was built southwest of the first location. Here, too, the large longhouse was re-erected at least three times (Houses III, IVab, IVcd) (Fig. 17.14).

Many additional longhouses have been found in connection with the two building phases at Mysselhøjgård. In the earliest phase, just south of the large longhouse, a small fenced-off area encloses a longhouse that was rebuilt in almost the same site at least once (Houses XLIII and XLIV). Further south, two connected longhouses were rebuilt, but were moved a little to the east during the building process and do thus not overlap with the older longhouses. The house

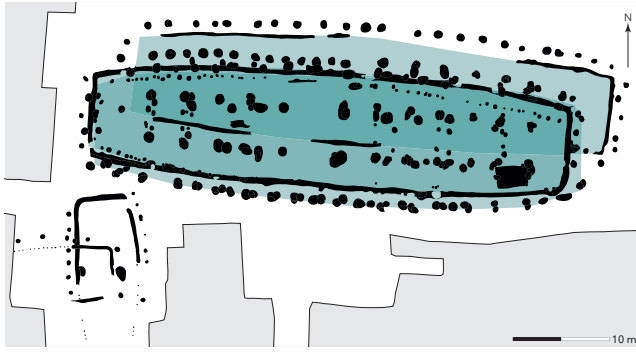


Fig. 17.14. The youngest sequence of large longhouses at Mysselhøjgård, Lejre, House III, IVab and IVcd. The longhouses were rebuilt more or less in the same place at least three times after each other (redrawn after Christensen 2015, fig. 6.40). Illustration: A. S. Beck.

construction changed at the same time. The longhouses outside the palisade surrounding the large longhouses were rebuilt in the same location, reusing the same house site each time. The most extreme case of rebuilding is represented by the longhouses XX, XIX, XVIIIab, XVII and XVI that were rebuilt in the very same site at least four times, thus reaching into and creating continuity to the later building phase of the Mysselhøjgård settlement (Christensen 2015, 66–68). In the later building phase, a sequence of four houses were built in the same site just north of the large longhouses. The construction and orientation changed considerably with each rebuilding, including a large pit house in the last phase, and in that way, it does not look like rebuilding as such but rather a deliberate reuse of the site (Christensen 2015, 85–86). Two houses here follow one another but are placed perpendicular to each other so that the later overlaps with the earlier (Houses IX and IXa). Two other longhouses were not rebuilt and the house sites not reused in other ways, either.

Altogether, many of the longhouses at the settlements at Lejre are built in deliberate relation to earlier longhouses on the site. At Fredshøj, this is only relevant for the large longhouse, but at Mysselhøjgård, it is a general feature and in one case creates clear continuity between the two major building phases. In two cases, the longhouses seem located in direct opposition to their predecessor. Very few of the longhouses have only one building phase.

The settlement at Bulbrogård had a lifespan of just over a century, and two phases of the settlement have been identified. Each phase consists of a large longhouse, one or two additional longhouses and a large fence (see Fig. 17.9). When the second phase was erected, the whole unit was moved a little to the east. None of the longhouses are reusing any former longhouse site, and there is a possibility that the two phases of the unit have been more or less overlapping in time (J. Bican, pers. comm.).

Later, the settlement was moved south to Fugledegård where it existed for more than 300 years. Four phases of

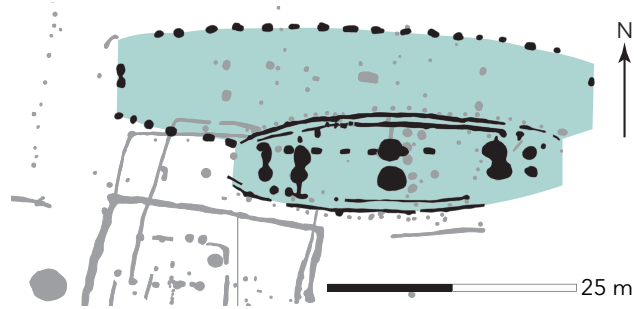


Fig. 17.15. The large longhouses at Fugledegård, Tissø. The large longhouses were rebuilt at least four times in more or less the same location. Illustration: A. S. Beck.

the same unit have been identified (Fig. 17.15) (Jørgensen 2009, 10). In at least two, but maybe three, phases, the same longhouse was rebuilt in the same location (Jørgensen 2005, 136). With a depth of 3 m and a diameter of 2–3 m, the dimensions of the central postholes for the roof-supporting posts indicate that even the same postholes were reused and redug several times (Jørgensen 2002, 233). In the last one or two phases, the large longhouse was rebuilt slightly to the north, still overlapping with the older house, but the type of house construction changed markedly.

To each phase of the large longhouse belongs a fenced-off area enclosing a smaller building. Only in phase two does this building seem to have been rebuilt once, in the same location and most likely as a renewal. Other than this, the construction and orientation of the smaller building changed from one building phase to another, and none of these smaller buildings were overlapping. Other longhouses in the settlement complex belong to the later phases (Jørgensen 2002, 229–238). None of them overlap with older buildings or seem to have been rebuilt.

In summary, in the Bulbrogård-phase of the settlement, none of the longhouses were rebuilt in the same location but were all moved to a new location when rebuilt. In the Fugledegård-phase of the settlement, the large longhouses show an extreme form of rebuilding and reuse of the same house site, whereas most of the other houses at Fugledegård only exist during one phase and, if they were rebuilt, they generally changed both type of construction and location.

At Järrestad, the settlement had a lifespan of 500 years, and four phases of large longhouses have been identified (Fig. 17.16) (Söderberg 2003). The rest of the complex has only been partly uncovered. The two earliest phases of the large longhouse (House 11/12) have been rebuilt on exactly the same spot, probably reusing some of the same postholes as well. In the following phase, the construction of the large longhouses changed slightly and was moved a little to the south, but still overlapping with House 11/12. In the last phase, the construction of the large longhouse changed markedly and the building moved slightly to the north.

In direct connection with the large longhouses, a fenced-in area with a building has been found. This building belongs to either phase 1 or 2, or maybe both. It does not seem like the house has been rebuilt or the house site reused, even though the fence around the area was re-erected. In the last phase, pit houses have been found within the area (Söderberg 2002a, 56). Of the other longhouses belonging to the settlement complex, most have not been rebuilt (Söderberg 2002a, 68–75). In two cases, longhouses were built reusing a house site where the later longhouse was placed perpendicular to the earlier house.

All in all, the practice of rebuilding longhouses at the settlement at Järrestad shows similarities to the practices observed at Tissø. The large longhouses show a great degree of continuity, whereas no other houses were rebuilt, and, if they were, they changed location, construction and/or orientation.

The analysis demonstrates that house sites were often reused in Late Iron Age settlements. Three kinds of reuse practice can be identified: rebuilding, overlapping or no reuse. Rebuilding is defined by the house site being reused for a building of similar construction and in more or less exactly the same place as its predecessor. Overlapping is defined by the site being reused for a house oriented markedly differently from the previous house. No reuse is defined by the housing plot being avoided for later buildings and constructions.

Rebuilding was identified at all the reviewed settlements. At Fredshøj, Mysselhøjgård, Fugledegård and Järrestad, the large longhouses were rebuilt in more or less the same site, sometimes even reusing some of the postholes from the previous building. At Strøby Toftegård, the smaller longhouses of the central unit were rebuilt but normally only once whereas the large longhouses moved to a new location with each rebuilding. At Mysselhøjgård, other longhouses than the large ones were also rebuilt in the same site as their predecessors, up to five times in the same site.

When rebuilding a longhouse on the site of its immediate predecessor, it is obvious that the time gap between the two houses must have been short. As soon as the old house was demolished, the new house must have been built, particularly in cases where the same ground features, such as postholes, were reused. Given this, it is reasonable to assume that it was the same inhabitants who moved into the new house as those who occupied the previous one. When reproducing the previous longhouse, the structure of the old house was continued into the next house generation, and it can be discussed whether the new longhouse should be perceived as a new house at all. Rebuilding in this way created continuity with the near past by reproducing not only the longhouse but likely also the social structures it accommodated.

The practice of overlapping was not observed in the practices of rebuilding the large longhouses in any of the

cases, though it should be mentioned that the character of the building changed markedly in the latest phase at both Fugledegård and Järrestad at the same time as the location was moved slightly. In relation to the smaller longhouses of the central units, it was observed in a few cases at Strøby Toftegård, Mysselhøjgård and Järrestad that longhouses were located perpendicular to their predecessors.

When longhouses overlap, the time gap between the two buildings may have been longer and the close relation to the inhabitants of the previous house has perhaps gone, but not necessarily if an overlap is consciously sought. When the old house structure is not respected, this can signify a deliberate break where continuity is not desired or is no longer important to mark. Sometimes a break with former structures is necessary in order to create new relationships. The practice of making longhouses overlap can in that sense mark a very concrete break with the near past, be it in terms of a substantial change of inhabitants, the structure of the household or the use and meaning of the house.

Finally, in some cases it seems that the reuse of a house site was deliberately avoided. At Strøby Toftegård and Bulbrogård, when rebuilding the large longhouses, they were moved to a new location each time. The move of settlements from Bulbrogård to Fugledegård, from Fredshøj to Mysselhøjgård and within Mysselhøjgård also involves a decision not to reuse a certain house site. As the chronological connection between smaller longhouses in different locations can be hard to establish, unless they are of a particular construction or are fenced off, the avoidance of a house site can only be discussed in the cases where the small longhouse has just one single building phase. Examples of small longhouses with only one phase have been observed at all the four sites. In the case of Fugledegård, the sequence of buildings just south of the large longhouses must have been deliberately moved to a new location when rebuilt, a shift that can only be observed due to the fact that the fence surrounding the area connects the smaller longhouses chronologically and also conceptually.

Reconstructing the time gap between two longhouses where the house site is not reused is not as straightforward as with the other practices of reuse, but in the cases of Strøby Toftegård, Bulbrogård and Fugledegård, the time gap must have been short since the temporal coherence between the longhouses is clear. The two constructions following each other may even have been overlapping in time and the continuity between the constructions thus more direct than when a longhouse is rebuilt on the same house site. On the other hand, there can also be specific reasons for avoiding a specific house site if it has in some way become polluted and taboo (Douglas 2001). This could be the case if, for example, the former inhabitants fell ill and died, if the house accidentally burnt down or if other things happened that the new inhabitants did not want to be associated with. Then a deliberate discontinuity is sought. In the case of the large

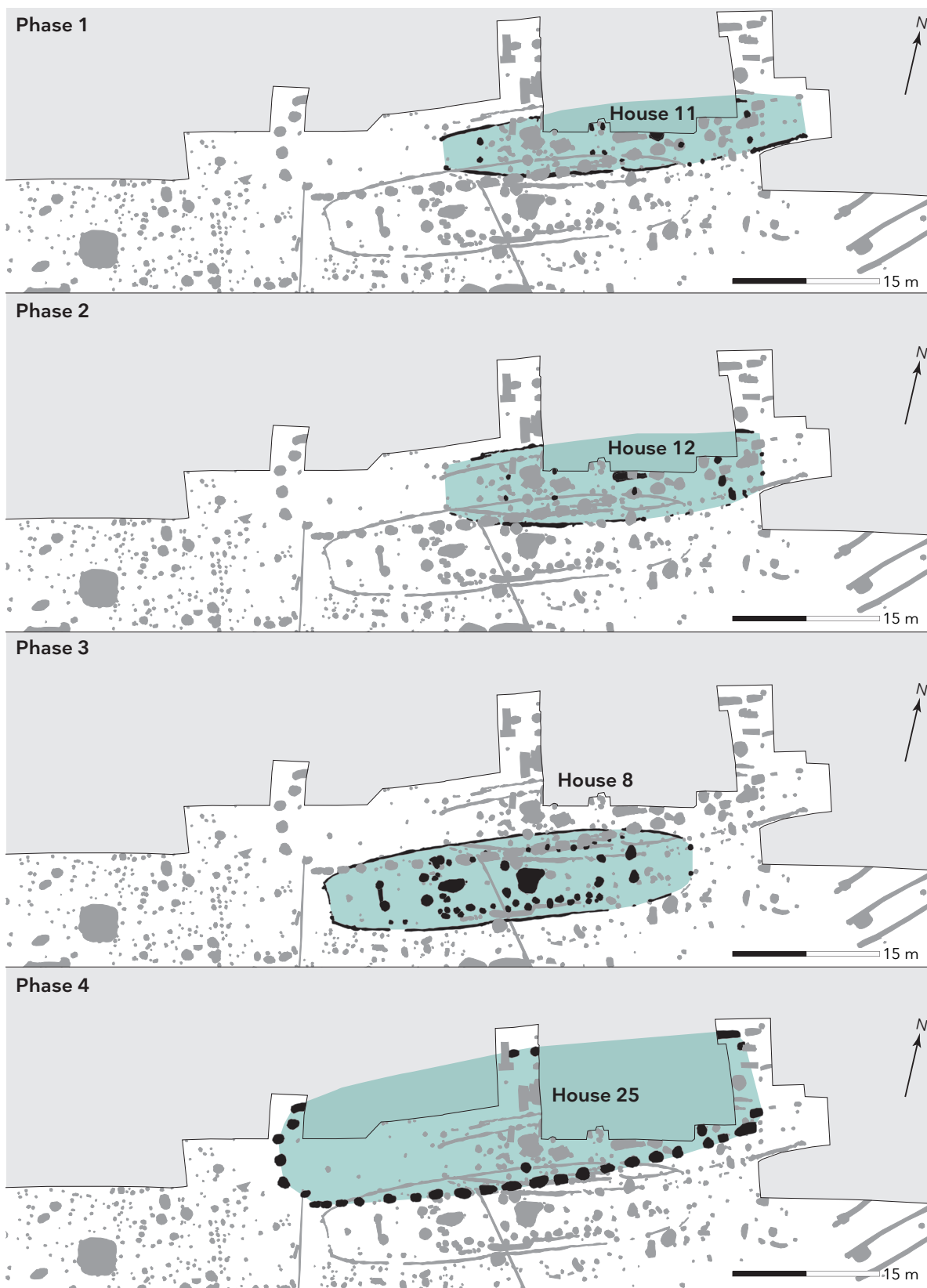


Fig. 17.16. The four phases of large longhouses at Järrestad. The large longhouses were rebuilt more or less in the same location (after Söderberg 2002a, fig. 26). Illustration: A. S. Beck.

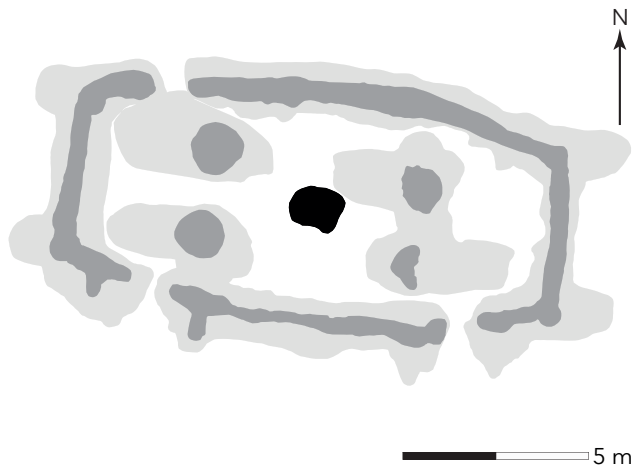


Fig. 17.17. The cult house from Uppåkra. The small longhouse has been rebuilt in the same location seven times, often reusing the same postholes (redrawn after Larsson & Lenntorp 2004, fig. 17). Illustration: A. S. Beck.

longhouses at Strøby Toftegård and the smaller fenced-in building at Fugledegård, there is more than one movement involved, and here an explanation involving direct continuity seems more plausible than avoidance. Whether the choice of not reusing an exact house site has to do with overlap in time or deliberate avoidance of a house site, the choice is made in direct awareness of what has happened in the near past.

The question is whether the different practices of rebuilding and reusing house sites are purely practical or whether there are more fundamental issues in play. The great variety in practice indicates that it is not a matter of merely practical choice. If it were only practical, a more uniform practice would be expected, for example, a more consistent reuse of ground features. Instead, it seems that the ways in which people understood the rebuilding of certain longhouses were deliberate and purposeful.

That physical continuity was important and meaningful can be exemplified by one of the most extreme cases of rebuilding observed in the period. At Uppåkra, according to the excavators, a certain longhouse was rebuilt seven times on the same site, reusing the same ground features, during the period from the Early Roman Iron Age into the Viking Age; a period of up to 800 years (Larsson & Lenntorp 2004) (Fig. 17.17). Due to the special character of the building and the number of distinct artefacts, such as gold-foil figures, glass sherds, ring-formed door handles and weapon deposits, found in relation to the building, this has been interpreted as a cult building. In this case, the long continuity of the building over several centuries has probably been intended and has helped to give the building its specific meaning.

In the same way, overlapping house constructions can also have been used deliberately in negotiations of politics and power. An obvious example is the settlements built in the

Scottish Isles after the Nordic colonisation. The majority of the new settlements were located on the same sites as older, native settlements, where the new inhabitants built their rectangular longhouses directly on top of the native, circular houses (Ritchie 1993, 25). In this case, the rebuilding practice works as a deliberate break with the past and becomes a matter of demonstrating political power and domination.

The practices of rebuilding, overlapping or not reusing a house site thus seem to constitute very deliberate choices that were intentional and meaningful within the contemporary society. When the longhouses are either rebuilt or the house site not reused and there is a close similarity to the architecture of the predecessor, it seems that the practice has been chosen with the aim of creating a strong sense of continuity. In both cases, we must assume a continuity in the household as well, which is supported by the reproduction of physical and social structures, and in that way it legitimated the continued inhabitation and position of the inhabitants (Bailey 1990, 38).

On the whole, rebuilding practices represent a way of relating to the near past or what Gosden and Lock call the genealogical past; a past where the ancestors are known (Gosden & Lock 1998, 6). Through the rebuilding practices, continuity or a deliberate break with the near past are actively created. The rebuilding situations will always be individual, because any given situation is always directly linked to the specific settlement, time and inhabitants involved, and this creates a certain pattern and variation in how the rebuilding practices are acted out. By establishing this sort of physical relationship with the near past, the continuity or break with the near past became an incorporated practice. In other words, the link to the inhabitants' own history in their present was not only narrated formally in stories but was also actively acted out.

Creating monuments

As described above, monuments are built to remind those who engage and interact with them of certain persons, events or stories. Most monuments are built intentionally, but also less intentional remains and ruins can over time become monuments. The final part of the analysis will focus on the creation and use of monuments in the Late Iron Age, but whereas monuments of this period are traditionally linked to burials and commemoration in the form of, for instance, grave mounds, ship settings and rune stones, the analysis will now focus on elements within the settlement that act as monuments.

As explained in the previous part of the analysis, the large longhouse of the central unit at Strøby Toftegård was moved to a new location each time it was rebuilt. At each rebuilding situation, the inhabitants had to deal with not only the new building but also the remains of the previous longhouse. House 5 was the first in the sequence of large

longhouses and was most probably built on an artificial platform at the highest point in the settlement (Beck & Kildetoft Schultz, Chapter 2). When the longhouse went out of use, it was demolished and apparently burnt down deliberately (Beck, Chapter 3). But the platform remained, as is indicated by the fact that the house site was not reused, even though the area around the house site is rich in traces of activity, for example cooking pits (Fig. 17.18). Although the longhouse had been removed, the platform must still have been physically present and visible throughout the lifespan of the settlement.

House 4 was probably built while House 5 was still in use or shortly after. Later, when the longhouse was given up, House 4 was demolished and all postholes backfilled. The backfill seems to have consisted mainly of water-rolled stones from the beach, but also burnt stones and occasional larger stones from the field, blocks of chalk and flint nodules were used (Fig. 17.19). Moreover, information about large amounts of stones being removed from the area by the landowner over time suggests that the whole house was covered in stones after its demolition (Beck, Chapter 3). This burial of the house is supported by the fact that the house site was not reused for later activities, even though several cooking pits were dug in the area around the house. The use of water-rolled stones to cover the house site demonstrates that a considerable effort was put into the creation of the stone cover, since the many stones had to be picked up from the beach and transported at least 2 km inland. The stone fillings and cover were thus not a random activity but a deliberate act, and it seems that the house site was permanently marked, not unlike a stone cairn.

House 3 was the next longhouse in the sequence, and when this house went out of use it seems to have been demolished. The area was probably reused after the demolition. House 1, which followed House 3, was also demolished after use, and the area heavily reused for cooking pits. House 2 was the last longhouse in the sequence. This house was also demolished after it went out of use. No traces around the house indicate any further elaboration or reuse after the demolition.

Before the excavation of the southern parts of the settlement, a high concentration of burnt stones in the topsoil was observed in the field just south of the large longhouses, and a thorough recording of burnt stones in the field surface was done just before the removal of the topsoil. The stone concentration could not as such be investigated archaeologically, but underneath it, the remains of a cultural layer was preserved, indicating that this area had been better protected against modern cultivation than the surrounding areas. The concentration of burnt stones in the topsoil could be interpreted as the last remains of a large concentration of burnt stones, since such ones have been observed in other settlements in the Late Iron Age (Fig. 17.18). In the covered area, several cooking pits were recorded and the

stone pile can therefore only have made and used during the later period of the settlement.

All considered, the archaeological record indicates that Houses 5 and 4, which were the earliest longhouses on the site, were deliberately dealt with after they had been demolished in ways that made the house sites stand out as a sort of monument for later generations, whereas the following large longhouses did not get the same elaborate treatment. Later in the history of the settlement, a concentration of burnt stones was created just south of House 4. The character of this concentration of stones is not known in greater detail, but the number of stones gathered in one site and the materiality of the burnt stones alone must have given the feature a permanent and more or less monumental character.

In the settlement at Fredshøj, Lejre, the small longhouse of House VIII was possibly built on an artificial platform, which must have been visible in the landscape a long time after the settlement had moved (Christensen 2015, 61). But as the settlement moved, the platform should not necessarily be regarded as a monument within a living, active settlement. Downhill from where the large longhouses were located, a large accumulation of burnt and fragmented stones was found. The pile was 20 m in diameter and 1 m high at the time of excavation, and it seems to have been built up continuously during the settlement (Christensen 2015, 173).

At Mysselhøjgård, the first large longhouse and the two succeeding phases were built on an artificial platform. When the large longhouses moved to a new location during the second building phase of the settlement, the large longhouse (House XLII) was demolished and burnt down, probably deliberately, but the platform was left as it was. In the late 10th century, a little more than 150 years after the last house stood there, the platform was reused for a number of burials (Christensen 2015, 151–159). One of the burials was located centrally on the platform, whereas two graves were located at the foot of the platform (Fig. 17.20). Four graves were located with the same orientation but just outside the platform. When the sequence of large longhouses in the second building phase was given up, there are no signs of the house site being treated in any elaborate ways afterwards, but this is also contemporary with the last phase of the settlement.

Similarly to Fredshøj, a large concentration of heavily burnt stones was also found at Mysselhøjgård. The concentration was up to 37 m in diameter and 1.5 m high (Christensen 2015, 173). The stones appear to have been accumulated over several events during the lifespan of the settlement (Christensen 2015, 176). Among and around the accumulated stones, scattered finds of fine ceramics, animal bones, tools and remains of iron smithing have been found (Christensen 2015, 166, 176–177). The stone heap was located more than 100 m southeast of the large longhouses (Fig. 17.21).

So, during the settlement at Fredshøj a large concentration of burnt stones was built up, but when the settlement moved

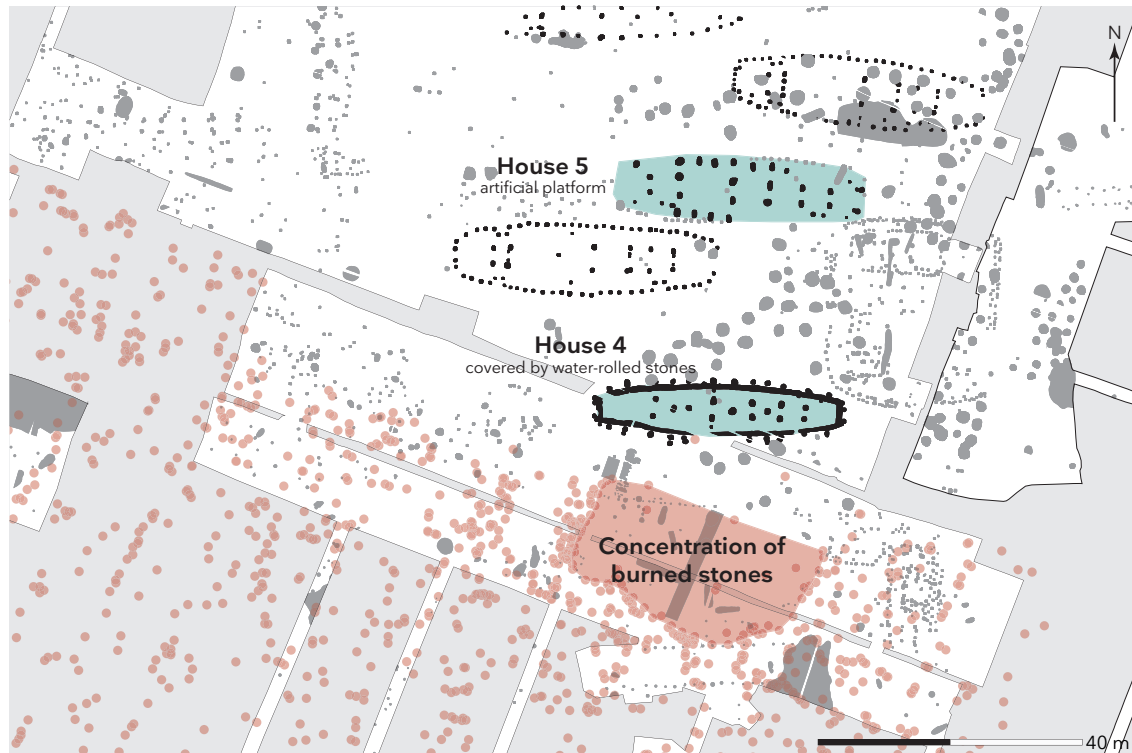


Fig. 17.18. The monuments within the settlement at Strøby Toftegård. House 5 was built on an artificial platform that was still present in the settlement after the house was demolished and burnt down. House 4 was buried under a layer of water-rolled stones. Both house monuments are highlighted. Just south of House 4, a large concentration of burnt stones was observed on the surface of the field, probably the last remains of a pile of burnt stones. The smaller dots indicate burnt stone recorded on the field surface. Recording has only been done in the southern part, and the sharp boundary towards the rest of the settlement is formed by an earlier excavation trench where the presence of burnt stones in the top soil was not recorded. Illustration: Museum Southeast Denmark.



Fig. 17.19. The foundations of House 4 were packed with stones, mainly water rolled. Here exemplified by a view of the house during excavation (left) and a sequence through one of the roof-supporting posts (right). The present landowner furthermore said that several wagonloads of water-rolled stones had been removed from the area over the years. Photos: Museum Southeast Denmark.

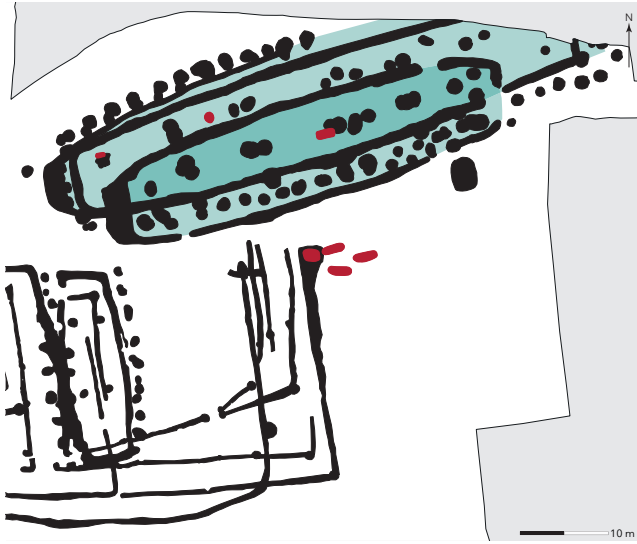


Fig. 17.20. Burials made in (A1636, A1697 and A1880) and around (A1859, A1860, A1861 and A1896) the artificial platform of Houses XL–XLII at Mysselhøjgård, Lejre. The time gap between the last longhouse and the graves is at least 100 years (redrawn after Christensen 2015, fig. 8.2). Illustration: A. S. Beck.

to Mysselhøjgård after a relatively short period, no subsequent engagement with the settlement traces seems to have been relevant. At Mysselhøjgård, this is different. A platform from the earliest large longhouses must have been visible long after the longhouses were removed. That the house site was interpreted as a monument is confirmed by the later use of the site for several burials. A large pile of burnt stones was built up during the settlement south of the platform.

At Bulbrogård, Tissø, there are no traces that any longhouses were treated in elaborate ways after their demolition, and no traces of any accumulation of stones have been found. The situation at Bulbrogård is in many ways similar to Fredshøj, where the relatively short inhabitation phase and subsequent move rendered the interaction with older settlement remains less pressing than it seems to have been in settlements with a longer occupation period.

At the later settlement at Fugledegård, the many phases of large longhouses built on top of each other in exactly the same place means that the remains of the previous longhouse must in every case have been removed completely when rebuilt. That excludes the possibility that any of the large longhouses were monumentalised in the same way as happened at Strøby Toftegård and Mysselhøjgård. However, a concentration of burnt stones was found just north of the large longhouses during the excavations (Jørgensen 2009, 11) (Fig. 17.22). This feature could only be superficially investigated archaeologically, and its character is not fully known. No structures were found under the pile, but the closeness (less than 25 m) to the large longhouses connects it to these.



Fig. 17.21. House IV at Mysselhøjgård, Lejre, during excavation, viewed from west. Further east of the house, a large heap of stones (highlighted) was found. The stone heap was in use during the whole settlement period (reworked after Christensen 2008, fig. 7 by A. S. Beck).

All in all, the movement of the settlement from Bulbrogård and the rebuilding practices at Fugledegård did not result in the large longhouses being monumentalised for later generations to engage with, but maybe the extreme form of rebuilding on the same site had a similar effect. A stone concentration in the central part of the unit at Fugledegård must have been built up during the settlement period in a similar way as the stone heaps at Strøby Toftegård, Fredshøj and Mysselhøjgård. Given its central location, it must have been a significant feature in the settlement.

Finally, turning to Järrestad, the situation here is quite similar to Fugledegård. The large longhouses were rebuilt in the same location several times, which excludes the possibility of a monumentalisation of previous house remains.

To the east of the large longhouses (c. 50 m), an extensive layer of burnt stones was found in a wet depression in the landscape (Fig. 17.23). The archaeological investigation showed that the concentration of burnt stones, contrary to the stones at Mysselhøjgård, had been laid out all at one time in the beginning of the 9th century. Another layer of stones was added towards the end of the settlement period (Söderberg 2003, 141). The lack of charcoal and other material between the stones indicates that the stones must have been accumulated over a longer period in another place before they were moved to where they were found (Söderberg 2003, 127, 135). Maybe the movement of the stones happened in relation with the rebuilding of one of the large longhouses.

In summary, the large longhouses have not left any remains during the settlement as all traces must have been

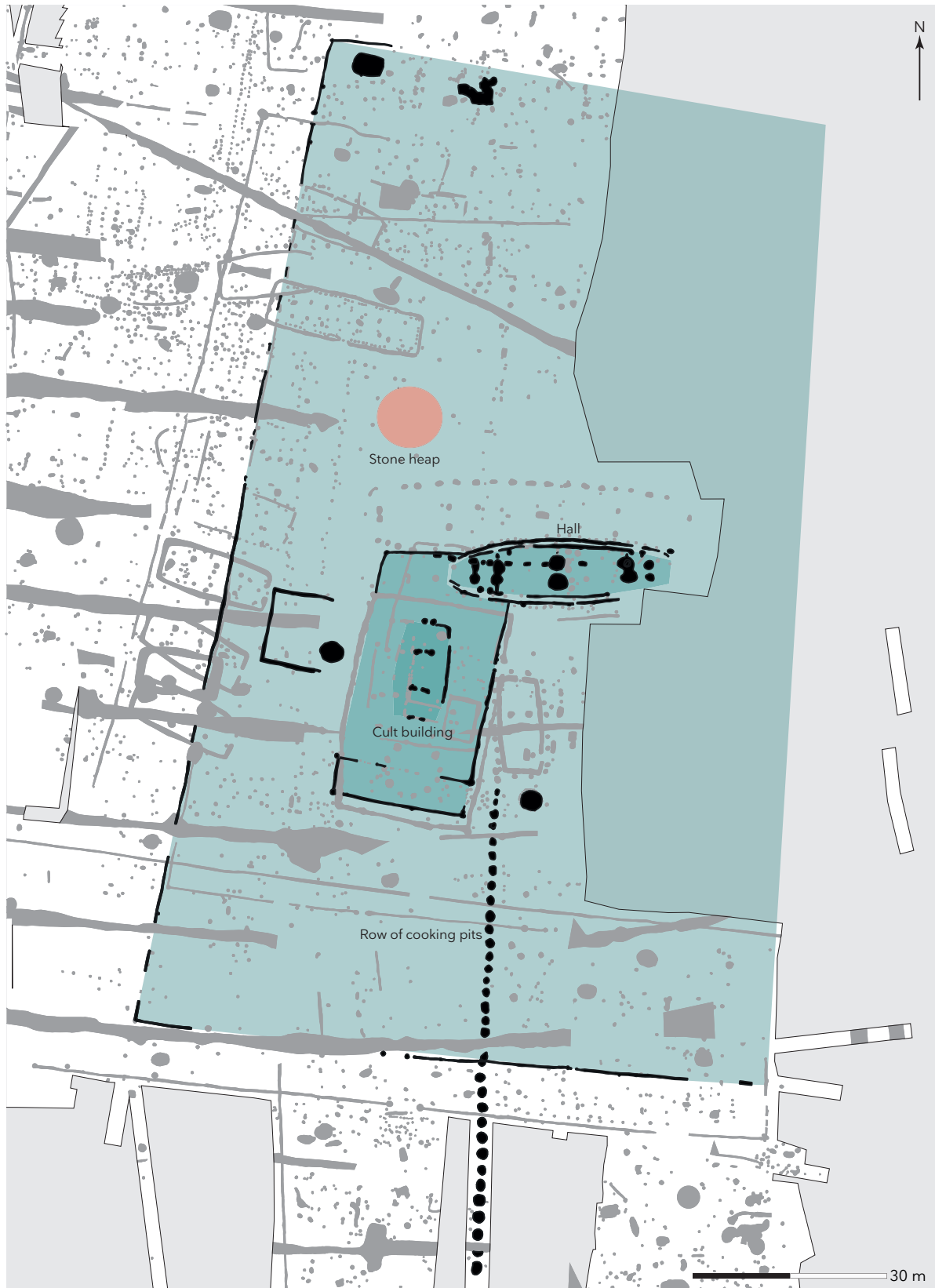


Fig. 17.22. The settlement at Fugledegård, Tissø in the 8th–9th centuries. The possible stone pile is located just north of the longhouse (redrawn after Jørgensen 2009, fig. 13). Illustration: A. S. Beck.



Fig. 17.23. The large longhouse at Järrestad in the 8th–9th centuries. Just east of the large longhouses, a large stone pile was found in a wet area (reworked after Söderberg 2002b, fig. 10). Illustration: A. S. Beck.

removed as part of the rebuilding processes. A concentration of stones seems to have been built up during the settlement and moved to a marshy area at two occasions. As there is no reason to believe that the accumulation of burnt stones was made anywhere else than at the settlement, the stone heap must have been an integrated feature of the central part of the settlement, as was observed at the other sites as well.

The analysis demonstrates that certain traces of settlement activities were allowed to survive beyond the lifetime of the single longhouse, and that the inhabitants interacted actively with these during the lifespan of the settlement. In some cases, this included remains of the large longhouses and, in all of the four settlements, it included accumulated concentrations of burnt stones. In the following, I will discuss the role of these features as intentional monuments within the settlement sphere.

Monuments anchor individual and collective memories to physical places and help commemorate the persons, events or phenomena they were created for. By being physically present and visible, the monument is a constant reminder for people to interact with the past through rituals and/or daily routines (Stenholm 2012, 34). Monuments are often built from durable materials in order to last ‘forever’ and are thus not only oriented towards the present but also towards the future (Holtorf 1997, 47). They are, generally speaking, built in the present to secure a future legacy.

Observations from prehistoric contexts and experimental reconstructions demonstrate that the ruins of a longhouse, even one that was originally built in timber and clay, can be visible for a very long time; still after 2000 years, if the area has not been cultivated (Hatt 1938; Stenholm 2012, 168). The remains of any longhouse must thus have been visible if the traces were not actively removed. Remnants that were not removed were present as physical features that people passed by and engaged with during their daily routines in and around the settlement. In this daily encounter with the past, the house site must have reminded the inhabitants

of older generations and the general history of the settlement (Lucas 2005, 40–41; Stenholm 2012, 220–221). In the analysed settlements, there were no signs of the large longhouses being left to fall apart and become ruins. When they were renewed, they were actively demolished, maybe even burnt. In the cases of rebuilding a longhouse on the same site, the remains must have been actively removed. However, in some cases, the house sites were elaborately treated so as to stand out, as was the case with House 4 at Strøby Toftegård.

Using a house site for burials is also a way of enhancing the commemorative aspect of the site, as was the case at Mysselhøjgård. The monument acquired a new dimension, not only commemorating the first inhabitants, but expanding the history of the place by adding new individuals to the site. Studies show that adding burials to older house sites was a practice that existed in several areas of Scandinavia during the Late Iron Age. It has been observed at Engelaug and Espeland in Norway, Arninge 75 and Hässelby in Sweden, to mention just a few (Fig. 17.24) (Thäte 2007; Stenholm 2012; Eriksen 2016). In general, the graves seem to be placed at house sites that are more than a century older than the graves, and so there is not necessarily any direct link between the original inhabitants and the buried individuals (Stenholm 2012, 200–201). The locations of some of the graves show clear awareness of the houses underneath it, for instance when the grave is located in the door opening of the house (Thäte 2007, 113–114; Eriksen 2016, 479). Based on a study of burials located in older longhouses, Marianne Hem Eriksen suggests that it was not only the concrete persons who were buried in the house, but also the house itself that was buried as part of its *rite de passage* (Eriksen 2016, 489–492). House 4 at Strøby Toftegård is an example of such a ‘house burial’ where water-rolled and burnt stones have been used to cover – and bury – the house. The use of stone fillings – both burnt and unburnt – are also known from human burials from the period, which only strengthens the link between the demolished house and the burial sphere (Ulriksen 2011). Pursuing this thought, the occasional burning of large longhouses, as observed with House 5 at Strøby Toftegård, House XLII at Mysselhøjgård and House 3 at Bulbrogård, could resemble cremation burials of the houses (Tringham 2000, 124; Eriksen 2016, 490). The burial of the ‘house body’ may have further supported the commemorative element of the preserved house remains.

Altogether, the analysis shows that a house site could be turned into a monument after the house had been demolished, sometimes even deliberately elaborated to enhance the visibility of the monument. Burials could also be added to the ‘house monument’, thus enhancing the commemorative aspect of the monument as part of the ongoing engagement with the history of the site.

The function and meaning of the heaps of burnt stones found at many Late Iron Age settlements have been

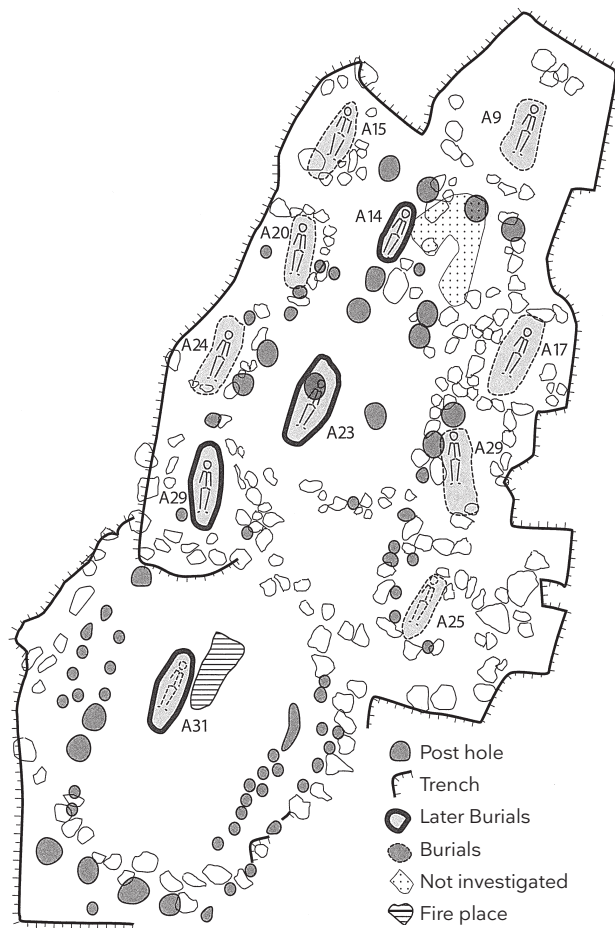


Fig. 17.24. An example of Viking Age graves (10th–11th centuries) placed on top of a longhouse from the early part of the Viking Age at Hässelby 151 (after Stenholm 2012, fig. 90).

discussed from both practical as well as ritual perspectives (e.g. Christensen 2015, 173–179). The function of the stones has not been settled, but different uses have been suggested. They could for example have had a function in cooking large amounts of meat or they may have been used when brewing beer (e.g. Kildetoft Schultz, Chapter 4). Both functions are potentially linked not only to daily cooking but also to feasting and the cooking of ritual meals. Alternatively, the stones could have been used in woodworking, when bending wood using hot steam, or the stones may have been used in saunas.

A different interpretation relates the stone heaps directly to the pre-Christian cult. The heaps of stones have, mainly based on written sources, been interpreted as *hørgs* (ON: *hōrggr*), as places for offerings and rituals in the open air (Olsen 1965). The finds associated with the stone concentration at Mysselhøjgård contained fine tableware, production remains and bones of, among others, eagle, beaver and wolf;

these finds all have a special character and could be related to ritual activities (Christensen 2015, 178). But as only few of the stone heaps have been properly investigated archaeologically, very little is known about their structure, their accumulation history and the finds related to them. Their role in ritual context is therefore as yet only speculative.

However, the size and permanence of the stone piles alone give them a monumental character. They seem to be established early in the lifespan of the settlements and to be accumulated continuously throughout the occupation period, with regular additions of stones being made. In that way, the stone heap may be the only structure which existed through the whole history of the settlement. The repeated interaction with these stone features can in itself be interpreted as an incorporated memory practice, where the history of the settlement was commemorated through the deposition of stones. In that sense, whether it was the primary intention or not, the burnt stones served as monuments within the settlements.

In conclusion, monuments are not exclusively connected to human burials, but can also be created and incorporated in settlement contexts. In the four settlements studied here, monuments were present in the form of house sites treated in special ways and stone piles. Both types of monuments were related to incorporated practices of interacting with them. That the interaction was ongoing is revealed by the later addition of burials to a monumentalised house site at Mysselhøjgård, and by the continuously accumulation of burnt stones in large heaps. The monumentalisation took place while the surrounding settlement was still in use, often starting in the earliest phases, whereas it did not happen after the last phase of the settlement. The function the settlement monument served was thus directly oriented towards the inhabitants of the settlement. Both the house sites and the stone piles are characterised by their physical permanence that reach beyond the lifetime of the individual longhouse and the lifespan of the settlement, and the monuments represent a very concrete way of handing over the history to the coming generations. In that way, continuity between the past, present and into the future was actively created.

Managing time, creating continuity

In the analysis, three specific memory practices identified within Late Iron Age settlements have been investigated: the incorporation of ancient monuments into settlements, practices of rebuilding longhouses and the creation of monuments within the settlement sphere. All three practices are examples of incorporated and embodied memory practices that actively interact with elements of the past on different levels. Each practice engages with and produces physical structures which affect the inhabitants of the settlement and shape their perception of the past, intentionally as well as unintentionally. Here, the three practices will be brought

together in a final discussion of the temporal structures created in settlements of the Late Iron Age.

The three memory practices are oriented towards quite different aspects of the past: ancient monuments from a deep, mythical past, house ruins from the near and genealogical past and the creation of monuments securing the recent past for future generations. The conclusion is that 'the past' is not just one thing, but several 'kinds of past' can be at play at the same time. What unifies the three practices is the perception of the past as something that you interact with and actively handle in the present in an attempt to anticipate the future (Gosden & Lock 1998, 11; Jones 2007, 53; Jordheim 2015, 71).

When elements from the past are actively brought into the present and the future, continuity is created between the past, present and future (Strathern 1996, 34; Lucas 2005, 83; Crossland 2014, 180). Continuity is a basic temporal concept. With continuity, long-term connections and similarities over time are emphasised. The stable and unchanging elements in a society are accentuated, while discontinuities and changes are actively downplayed. Continuity thereby helps create an image of the world as durable and immutable, though not necessarily as timeless. Continuity ensures that the future is perceived as a place characterised by stability and immutability (Crossland 2014, 39; Jordheim 2015, 80). The effect is that the world is experienced as a well-known and safe place where there is no distinct distance between the past, present and future (Munn 1992, 106–107).

Beside the practices analysed here, the reuse of older monuments for burials, citations of older artefacts, raising rune stones and the character of the written sources confirm that continuity was actively sought and highly valued in the Late Iron Age as a temporal perspective (e.g. Thäte 2007; Stenholm 2012; Arwill-Norbladh 2007; Williams 2016). On a general level, the active engagement in memory practices often occurs during unstable periods or periods of societal conflict (Bradley 1987; Thäte 2007, 32–33, 63; Stenholm 2012, 40). A response that seeks to avoid potentially uncontrolled change could be to legitimise the existing structures by actively using the past to create a general sense of continuity. If the creation of an image that things have 'always been like this is successful it is harder to challenge and change the conditions in the present (Gren 1994, 92; Thäte 2007, 63). One way of creating continuity is to manage how the past is disseminated and to establish solid and indisputable connections between the past, present and future through emphasising and shaping the physical and visual presence of the past, as in the case of the memory practices analysed here (Munn 1992, 109–112; van Dyke & Alcock 2003b, 2).

The need for a strong focus on continuity can have been provoked by a general feeling of instability and the dynamic structures of Late Iron Age society. During

that period, new knowledge and ideas were coming into Scandinavia as a by-product of the increased contact with Europe through raids, trading routes and travelling, and these must have presented a constant challenge to the existing structures (Ashby 2015). At the same time, there were no fixed power structures in the South Scandinavian communities, as power was spread out across a flexible group of magnates of varied character (Sindbæk 2008). The political elite was defined by the social relations they participated in and they depended on local and regional support, conditions that could change relatively quickly. Therefore, the elite participated in large social networks where regular visits and feasting played an essential role in maintaining contacts, support and in the end a powerful position (Brink 1996; 2005; Herschend 1997; 1998; Gansum 2008; Poulsen & Sindbæk 2011; Jessen 2012; Carstens 2015; Baastrup 2016). Power was negotiated and renegotiated and could thus potentially also change if it were not constantly legitimised and reconfirmed.

From the analysis, it has also been demonstrated that there was a considerable variation in how each practice was actually conducted. Depending on the situation and context, the specific need for the creation of continuity, stability and legitimisation may well have varied from site to site. Therefore, the variation in how explicit social memory was expressed in a given settlement and how memory practices were carried out presumably mirror the unique situation and conditions of the specific settlement. Furthermore, it might not be the same practices or strategies that were used at the time of establishing a new settlement compared to a situation where power structures in an existing settlement are challenged, or when the settlement is reorganised, such as when handed over to the next generation. Different practices may be appropriate in different situations.

When establishing a settlement in a new location, the choice of location and the establishment itself needs to be legitimised and approved by the inhabitants, as well as any local neighbours. In this situation, a concrete link to the history of the landscape can be a powerful tool. The incorporation of ancient monuments may draw attention to the continuity of the inhabitation of the landscape rather than to questioning the new choice of location. As argued, also the phenomenon of *odal* directly linked ancestors, genealogy, inheritance and rights to land (Zachrisson 1994; Thäte 2007, 277). With this in mind, a newly established settlement may be interested in crafting a link to ancient monuments in the vicinity in order to give the settlement a (constructed) past with an inherent right to the land. When establishing the settlement, the deep and mythical past can be important in terms of using the ancestors as legitimisation for rights to land and power.

To exemplify, ancient monuments in the form of visible mounds were incorporated directly into the settlements at Strøby Toftegård, Mysselhøjgård and Fredshøj. At Järrestad

and Fugledegård, a similar connection may have existed but has not been archaeologically investigated. This could be a way of attaining the rights to the land and communicating this right to both inhabitants and neighbours. At Bulbrogård, where no prominent monuments were incorporated into the settlement and references to the history of the landscape were less direct, the situation can have been different. Perhaps the inhabitants at Bulbrogård already had well-established rights to the land at the time when the settlement was created. They may, for example, have brought these rights with them from a previous, not yet known, settlement site.

During the period of inhabitation, focus may have changed from the ancient past to also include the inhabitants' own near and genealogical past on the site as this was gradually and continuously created with the passing of time. Each settlement had its own internal, social dynamics that caused developments and changes in the composition of inhabitants and in the settlement. In this process, the reuse of house sites in appropriate ways in relation to the situation can have been a way of showing that the near, genealogical past was under control and not simply open for anyone to interpret as they wished. However, variations in internal dynamics may be the reason why some houses were rebuilt in the same place as their predecessors and other houses were moved to new places.

The rebuilding of the large longhouses at Mysselhøjgård, Fugledegård and Järrestad can serve as examples. By rebuilding an exact copy of the longhouse in the exact same place several times, in some cases even reusing the very same archaeological features, must have been a strong indicator of the continuity and stability of the power structures. When the large longhouses at Strøby Toftegård were not built on the same site, this could perhaps be caused by the power structures of the settlement being less consolidated. Therefore, a more direct continuity in the form of building the new longhouse while the older longhouse was still standing was a necessary strategy. That the power structures were organised differently in the separate settlements and therefore needed to be handled differently is another possibility.

When a reorganisation of structures and house sites was unavoidable, this could leave an opening for questioning the existing structures. In such cases, it could be essential to create a clear link to the previous structures and deliberately downplay the changes. The temporal focus changes towards the future and how to hand over the past to new generations. Building monuments could be one strategy to secure and take control of the past when moving into the future and a way of solidifying the legitimacy to power. Given their permanence, monuments serve to legitimise existing conditions by creating an image of stability (Gren 1994, 92; Thäte 2007, 63). Monuments constitute a concrete place in which to commemorate the past, but they also ensure that the past is always visible, present and non-questionable.

This idea can be exemplified through the monumentalisation at Strøby Toftegård and Mysselhøjgård. At Strøby Toftegård, it was the earliest, large longhouses in the settlement that was monumentalised, not the later ones. Their legacy was in that way secured and would live on. This could be an intentional strategy possibly caused by a relatively dynamic structure of the central unit and ongoing reorganisation of the settlement. Or maybe the existing power structures were challenged by somebody of equal status settling in the local area, for instance at Frøslev in the southern part of Stevns, thus creating a need to reaffirm the social status and rights to the land. At Mysselhøjgård, the monumentalisation happened when the large longhouses changed their location within the settlement, but the platform on which they had stood remained as a visible witness of the old longhouses. Much later, the inhabitants re-engaged with the monument by adding a number of burials to it, thereby confirming the structure's continued function as a monument. This practice may conceivably have been necessary at that specific moment in the settlement history due to a historical situation which today is unknown.

Memory practices and social memory shape the temporal structures within which the inhabitants live through embodied practices which defines the inhabitants' sense of time. These practices are as such not only conscious strategical actions in a political context but should, rather, be perceived as essential elements in the process of dwelling, in how people build up relations to their surroundings and find their place in the world (Jones 2007; Stenholm 2012, 229).

In a broader perspective, inhabiting a place can be described as an assemblage made up of a heterogenous collection of related things, houses and landscapes, people and practices, enfolding and unfolding in an ongoing creation and recreation of the relation(s) with the world (DeLanda 2006; 2016; Lucas 2014; 2016; Bille & Sørensen 2016). In such an assemblage, the memory practices constitute an important element, which contributes in the form of a distinct temporal dimension. As such, inhabiting a place is not only defined by the physical constructions made for dwelling but also by how people engage with these over time – creating time – during the process of residing. Conventionally, this temporal relation would be defined exclusively by the duration of the dwelling. However, as demonstrated in the analysis, the temporal dimensions of inhabiting a place reach beyond the individual longhouse and into both the past and the future. Both of these perspectives, towards the past and the future, guide and direct actions and practices in the present. Dwelling is thus not only a temporal relation with the world, but a fundamentally multitemporal one.

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Strøby Toftegård – a magnate settlement. Discussion and conclusion

Anna Severine Beck, Maja Kildetoft Schultz & Jens Ulriksen

Abstract

The conclusions of the survey and processing of the archaeological material from Strøby Toftegård focuses on qualifying the interpretation of Farm 1 as the residence of a magnate and the whole settlement as a magnate settlement. This is done by following up on the analyses of differences and similarities between Farm 1 and the remaining farm units that have been presented in the other articles by means of a discussion of how social hierarchies are created. The argument is that Farm 1 is a magnate farm, because its inhabitants appear to have had better access to resources, been in charge of certain activities, had access to knowledge that was not available to everyone and, finally, that they were part of larger social and political networks. It is likewise argued that the rest of the settlement was home to the magnate's retinue in the form of, inter alia, mounted warriors. Strøby Toftegård's placement within the hierarchy of power in relation to the other known magnate localities is also discussed. The argument here is that there were close connections between Strøby Toftegård and the royal seat in Lejre, although the material simultaneously indicates that Strøby Toftegård was not quite on the same political level as Lejre.

Keywords: Strøby Toftegård, magnate, magnate settlement, archaeological material, social hierarchy, power

The purpose of the present publication has been to present and consider the archaeological material from the site of Strøby Toftegård. This is done by means of a detailed survey and analysis of buildings and features (Beck, Chapter 3; Kildetoft Schultz, Chapter 4; Henriksen & Mortensen, Chapter 5), structures (Beck & Kildetoft Schultz, Chapter 2), various groups of artefacts (Gotfredsen, Chapter 6; Bastrup, Chapter 7; Kildetoft Schultz, Chapter 8; Hårdh, Chapter 9; Sode, Chapters 10, 11 and 12; Gratuze, Chapter 13) and a discussion of the landscape and the social context that the locality fitted into while it was in use (Kildetoft Schultz, Chapter 14; Albris, Chapters 15 and 16; Beck, Chapter 17). With these contributions as our starting point, we now wish to round off the publication with a discussion of those elements within the archaeological material that

justify interpreting the settlement at Strøby Toftegård as a magnate settlement, what such an interpretation entails and what questions it raises for future treatment of the archaeological material.

The magnate in archaeological interpretations

Within Scandinavian archaeology, there is a long-standing tradition of studying the social organisation of the Iron Age and the Viking Age. In this, there has been a particular focus on mapping the social hierarchies, power, pre-Christian cult, centralisation and the formation of kingdoms (*e.g.* Randsborg 1980; Mortensen & Rasmussen 1991; Fabech & Ringtved 1995; Larsson & Hårdh 1998; Jørgensen 2001; 2006; 2009; Skre 2001; Larsson 2006; Sørensen 2008;

Thurston 2010; Ethelberg 2011; Poulsen & Sindbæk 2011a; Stidsing *et al.* 2014; Christensen, Lemm & Pedersen 2016). This focus within the scholarship has, since the 1980s, been carried forward by the discovery and investigation of a range of extraordinary localities within southern Scandinavia, such as Gudme, Lejre, Tissø, Slöinge, Järrestad and Uppåkra (Nielsen, Randsborg & Thrane 1994; Callmer & Rosengren 1997; Hårdh 2001; Söderberg 2005; Jørgensen 2009; Christensen 2015; Sørensen 2022). These sites have all been interpreted as home to a ruling elite on the basis of their prominent architecture with exceptionally large longhouses and unusual construction details, inventories of objects that include unique items of jewellery and fittings, large proportions of imported goods, cult objects, weaponry and equestrian gear, as well as traces of high-level and specialised production within various crafts. Already during the early stages of the investigations of Strøby Toftegård, this settlement was interpreted as being part of this ‘exclusive’ group of localities (Tornbjerg 1998, 230; Woller 1998, 101).

Today, the study of the structure and role of these magnate settlements within contemporary society appears to be almost a field in its own right, with its own research history and terminology (Fabech & Ringtved 1995; Thurston 2010; Høilund Nielsen 2014). Identifying traces of social hierarchies and power continue to have a prominent role within archaeological research, as well as in targeting and interpreting excavations, so the number of magnate sites that have been investigated has grown considerably over the past 10–20 years (*e.g.* Carlie 2008; Heimer 2009; Holst *et al.* 2013; Jessen & Terkildsen 2016; Juel & Ravn 2018; Terkildsen 2018). However, rising criticism of the traditional interpretations suggests that there is also a number of problems embedded in them.

One branch of this criticism has pointed out that the definitions of the concepts that are used within the traditional interpretations are unclear and insufficient (Høilund Nielsen 2014, 11; Holst 2014, 179; Terkildsen 2018, 176). On the whole, the interpretations make use of rather different designations for the localities belonging to the uppermost social layers of society (such as magnate farm, central place, elite residence, royal seat) and similarly for the people who established and inhabited these localities (such as magnate, chieftain, king, aristocracy, elite). Each designation plays directly on specific conceptions of social hierarchy, power and societal organisation, and the choice of designation thus plays a decisive role in terms of the further understanding and interpretation of a given locality’s place within its contemporary society. Even so, what lies behind the choice of terminology used in each individual interpretation, and what it means in concrete terms, is rarely described in the literature. One might suspect that the use of concepts does not always occur as a conscious choice, and possibly also without much reflection on the theoretical connotations of the terminology (Thurston 2010, 194). At the same time,

the traditional concepts are used to describe and interpret a gradually wider range of localities, which means that the definitions of the terminology are further diluted (Høilund Nielsen 2014, 17; Holst 2014, 179). The result of this is that interpretations are at best lacking transparency, but in the worst cases they may unconsciously end up applying unintended and sometimes anachronistic models for social hierarchy to their descriptions of how society was organised in the Late Iron Age.

Moreover, the criticism of the traditional interpretations has called for more nuances in the discussions of how social hierarchies are created and thus also how they are expressed in the archaeological material (Thurston 2010, 211; Høilund Nielsen 2014, 23). The traditional interpretations often focus on wealth and physical power in the shape of metal objects, weaponry and extraordinary structures at the cost of other expressions (*e.g.* Fabech & Ringtved 1995; Jørgensen 2006). This approach has been labelled ‘power-and-prestige archaeology’ by some critics (Widgren 1998, 281; Borake 2019). In some cases, a certain number of metal finds – preferably gold – or an unusually large house has been enough for a site to be interpreted as a magnate site. But adopting a very one-sided focus on wealth and physical dominance may lead to overlooking other significant elements that are also part of establishing social differences and producing power. Such elements might be knowledge, the ability to make decisions, history writing, having certain responsibilities or even luck (Thurston 2010, 211; Ashby 2015). In other words, power is not only expressed as ‘power over’, but also as ‘power to’ (Thurston 2010, 202; Borake 2019, 66). We therefore need a continuous dialogue about the functions and relationships that play a part in creating social hierarchies and power in a given society, so that the existence of an elite and the understanding of how its presence is expressed in the archaeological material is not just taken for granted, but actually contributes to an elucidation of the societal dynamics of the period in question (Høilund Nielsen 2014, 23). Without a solid anchoring of a given interpretation in the concrete archaeological material, we may end up with unfortunate (albeit likely unintended) understandings of the archaeological material, thus limiting our possibilities for nuanced and complex understandings of social organisation, and, ultimately, we may be left with a simplified picture of the role of a given site or phenomenon within society at the time.

Finally, the traditional interpretations have been criticised for focusing too much on the elite without taking the rest of society into consideration (Thurston 2010; Holst 2014, 188–189; Høilund Nielsen 2014, 18; Borake 2019). This is reflected in the prominent role that scholarship pertaining to the Late Iron Age attaches to prestige objects, trade networks, religious activities and settlements with extraordinary architecture, and the fact that such scholarly investigations are rarely linked to the study of sites of a more ordinary,

agrarian character. But one cannot exist without the other, and the size and quality of a house can only be described as extraordinary if it is larger and better built in comparison to other houses (Thiis-Evensen 1998, 6). In other words, there has been a focus on the concrete expressions of power, but not on the processes behind it. Therefore, those finds that are regarded as extraordinary should always be held up against whatever constitutes the norm in a given context in order to attain a better understanding of how social inequality, hierarchy and power are manifested materially in a given context (Price & Feinman 2010, 4). Power and social inequality involve not only those in power, but inevitably also all the other persons who together constitute society (Borake 2019, 61–62). It is a mutual relationship, and without a critical mass on whose behalf they make decisions – and who simply accept the situation – those in power cannot exist. Including the full range of sites, objects and activities means that a better understanding is attained of how power arises, is maintained and changed in a given context. It moreover allows for paying attention to the fact that things do not necessarily develop in the same way everywhere, but may follow parallel, individual or sometimes divergent paths (Thurstun 2010, 198; Holst 2014, 179). The risk entailed in studying the phenomenon with blinkers on is that the power structures will appear as static, and that the more complex social dynamics and processes of the contemporary society are overlooked (Thurstun 2010; Høilund Nielsen 2014, 23; Borake 2019).

Because the criticism of the traditional interpretations presented above is regarded here as significant and relevant, the discussions and conclusions that follow below with respect to the work done at Strøby Toftegård will seek to qualify the interpretation of this locality as a magnate settlement. The purpose, thus, is not to question whether social differentiation existed in Late Iron Age society, but instead to discuss the phenomenon and assess how it is expressed in the archaeological sources. The aim is to facilitate a more nuanced interpretation of the social organisation and its internal dynamics, focusing on the possible roles of Strøby Toftegård in this.

The magnate in the archaeological material

In connection with the treatment and interpretation of Strøby Toftegård, we have chosen to use the notions of ‘magnate’ and ‘magnate farm’. There are several reasons for this. Firstly, we regard magnate as a broad and dynamic notion, which indicates that social hierarchies are present, but not necessarily where in the hierarchy the person is placed, nor exactly what structures the person is part of. This leaves room for variation and development within the concept. Secondly, it describes a societal organisation known from (later) historical sources (including the Sagas of Icelanders) and finds some resonance in these. Finally, the concept

has also been used in previous interpretations of Strøby Toftegård and thus continuity is maintained between the present and earlier presentations of the site.

The term magnate is used here to describe a person who had a privileged and usually powerful position within Late Iron Age society. This may pertain to local, regional or super-regional levels, and the meaning of the term may vary depending on the level (Poulsen & Sindbæk 2011b; Høilund Nielsen 2014, 23). Here, the term refers exclusively to the societal role this person fulfilled, and so it is not a permanent title. In terms of the interpretations, this also means that the role may have been filled by men and women alike, as is also suggested by the archaeological and historical sources (Moen 2019).

In order to identify the magnate within the archaeological material, it is important initially to clarify what relationships are the decisive ones for social hierarchies to arise. On an overall theoretical level, one might say that social hierarchies arise and continue to exist because people have unequal access to ‘goods, information, decision making and power’ (Price & Feinman 2010, 2). This means it is not only the access to material resources, such as economy, territory and prestige objects, that defines the magnate, but also immaterial aspects, such as access to knowledge, the right to ‘write’ history, personal success, credibility and the extent of the political networks that provide a person with privilege and power (Ashby 2015, 92–93). In turn, this means that the magnate’s position should to a greater extent be regarded as defined by the social relations the person played a part in than merely concrete, physical dominance. Partly, the magnate was appointed by individuals within the surrounding society who had faith in the magnate’s abilities and supported him or her; partly, the magnate played a part in greater and smaller political and hierarchical networks outside the local community. The relations to both local and greater political networks had to be maintained in order for the magnate to retain his or her privileged position. This could take the form of the magnate sharing surplus and profits by giving gifts, paying and hosting visits, but also by fulfilling duties and responsibilities to the surrounding society, gathering and sharing knowledge and being in charge of religious tasks (Harrison 1997, 27; Thurstun 2010, 211; Poulsen & Sindbæk 2011b). For instance, it might be the magnate’s duty to offer safety, create and maintain stability, educate warriors, passing legal sentences, look after the interests of his or her supporters in politics and legal conflicts, ensuring and leading cultic activities and arranging religious festivals. The magnate is thus not only defined by what he or she *has and owns* (having the ‘power over’), but also what he or she *does* (having the ‘power to’). So, the role is not defined by specific factors, but arises as the result of a given situation.

Turning to the archaeological material with a view to identifying traces of the magnate, then, it is important

because of these factors to consider a wider range of aspects in order to qualify the interpretation, because it seeks to take into account not only tangible objects but also the actions of which they are expressions. In concrete terms, some obvious things to look for are the way in which resources are used and distributed, the nature and status of certain activities, expressions of control and access to knowledge, as well as participation in political decisions. Moreover, it is important to study not only the expected magnate context in isolation, but to hold its archaeological expression up against other material in order to qualify how the magnate context stands out as extraordinary in comparison to the rest of society. Here, the material from Strøby Toftegård constitutes a particularly good opportunity for comparison. The clear, structural differences within the settlement mean that Farm 1 is interpreted traditionally as a magnate farm and the remaining part of the settlement as more ordinary and agrarian in nature (Beck & Kildetoft Schultz, Chapter 2). This provides a unique opportunity to assess and note differences and similarities within the archaeological material from what are believed to be contemporary but separate social spheres, and thus to nuance and qualify the interpretation of the settlement at Strøby Toftegård.

The magnate at Strøby Toftegård – a discussion

Each of the articles within this publication analyse part of the archaeological material from Strøby Toftegård. Apart from the general presentation of the material, the purpose has also been to shed some light on the nature and role of the site. Here, the results will be gathered in an overall discussion and interpretation of the Late Iron Age settlement at Strøby Toftegård, which encompasses all the contributions. The discussion focuses on how access to resources, the nature of activities, control of knowledge and partaking in political decisions are expressed in the archaeological material, with a particular focus on similarities and differences between Farm 1 and the rest of the settlement (Fig. 18.1).

Access to resources

The access to resources is reflected in the consumption within the individual farm units of the settlement. In concrete terms, this refers to the variety in accessible resources and the amount of resources that are consumed. It is linked to building houses, consuming food and to the objects that surrounded people in their everyday lives.

Studying the longhouses reveals that access to and the use of resources was unevenly distributed across the settlement (Beck, Chapter 3). There are great similarities in the architecture across the entire settlement, but within the frames of the same basic idea, some houses still stand out by being bigger and/or better built than others, for example by having oversized timbers in relation to their

size, having a special wall construction or extra buttresses. The great majority of these well-built houses lie within Farm 1. Here, especially the five main houses stand out, together with a few of the smaller longhouses, by being constructed from high-quality building materials and including specific architectural details such as middle posts, whitewashed walls and wall ditches with rammed-down posts. Additionally, the main houses of Farm 1 were the longest longhouses of the settlement (up to 39.5 m). Since fragments of windowpanes were found, it is possible that windows may have been part of one of the buildings at Farm 1, which must be seen as very special during this period (Sode, Chapter 12). Altogether, these traits show that the consumption of resources for the longhouses of Farm 1 was much greater, more varied and more exclusive than at the other longhouses of the settlement (Fig. 18.2).

Analyses of bone material (Gotfredsen, Chapter 6) and macrofossils (Henriksen & Mortensen, Chapter 5), respectively, suggest that there were also differences in the food consumed within the individual farm units, both in terms of variation and amounts. On the basis of the bones, the material indicates that the consumption of meat was much greater at Farm 1 than at Farms 2–9. For example, the gender ratio among pig bones reveals that the proportion of boars and hogs is bigger than the proportion of sows at Farm 1, while the opposite is the case for Farms 2–9. This suggests that the bones at Farm 1 to a greater extent stem from the consumption of meat than from breeding. This interpretation is supported by the range of ages, which shows that the slaughtered animals of pig, cow, sheep/goat and horse are younger at Farm 1 than in the rest of the settlement. The fishbones also show that there were differences in the foods consumed. Bones from salmon and garfish are found exclusively within Farm 1, while bones from other species of fish are found across the entire settlement. The combination of crops that were grown and consumed at the settlement, suggests that more fine, white bread made from wheat was eaten at the settlement as a whole compared with other contemporary agrarian sites. As the number of samples is unevenly spread out, it is not possible to tell whether this pertains specifically to Farm 1 or to the general settlement. Overall, the bone material and macrofossils indicate that the foods consumed at Farm 1 were both more varied and included a more abundant amount of meat than was the case at the other farm units. This confirms the notion of an uneven access to resources within the settlement.

The items that can be linked to individual households of the settlement likewise point to an unequal access to resources and differences in consumption (Beck & Kildetoft Schultz, Chapter 2). All farm units of the settlement are interpreted as units of habitation, with traces of each their household and minor production for immediate consumption, but generally speaking, the number of items is

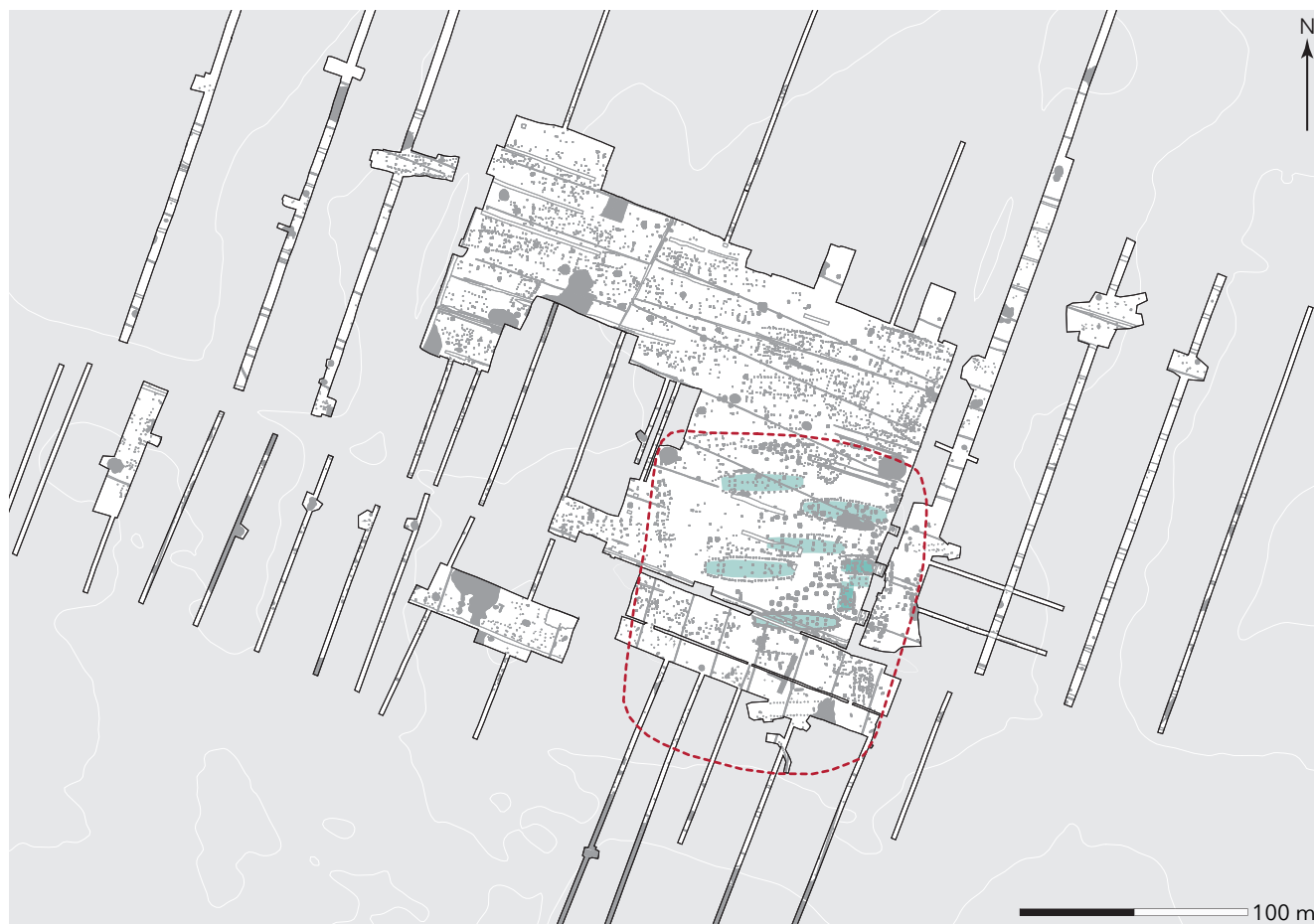


Fig. 18.1. Map of the settlement at Strøby Toftegård. Farm 1 and the most important houses of the farm unit are highlighted. The remaining settlement consists of several contemporary farm units (as many as eight farms) located in the area surrounding Farm 1. Illustration: Museum Southeast Denmark.

both greater and more varied within Farm 1 compared with the other farms. Domestic utensils at Farm 1 differ from those at the other farm units as the largest share of, for instance, drinking glasses (Sode, Chapter 11) and possibly also imported pottery were found here (Kildetoft Schultz, Chapter 8). The pottery finds likewise reveal that the main bulk of ornamented pottery is found within the precincts of Farm 1. Farm 1 is, moreover, the only place within the settlement where soapstone sherds were found (Kildetoft Schultz, Chapter 8). The domestic utensils at Farm 1 thus seem to be of a more varied and exotic character compared with the rest of the settlement.

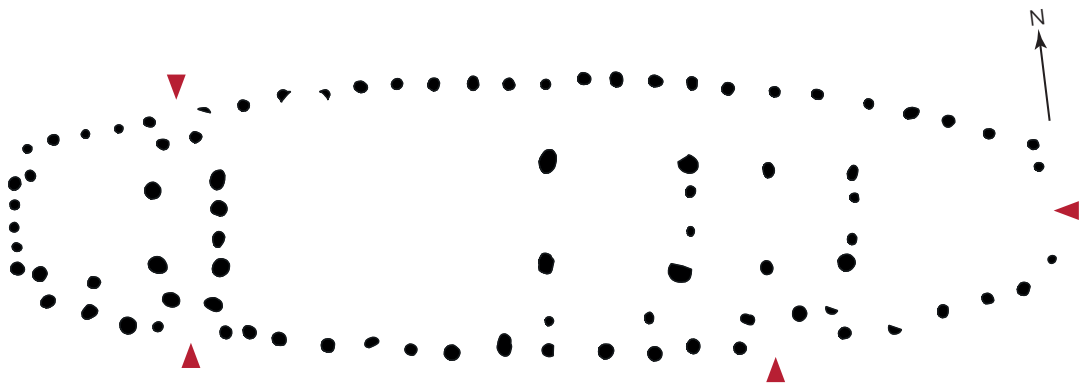
However, finds of jewellery (Baastrup, Chapter 7), coins (Hårdh, Chapter 9), a gaming piece, die and beads of glass and semiprecious stones (Sode, Chapter 10), which are traditionally interpreted as prestige objects, are scattered across the entire settlement, which shows that everyone had access to these kinds of objects. Farm 1 nonetheless stands out by having not only the largest number of such finds, but also the vast majority of imported and unique items. The

fact that the only hoard, with Arabic coins and hacksilver (Hårdh, Chapter 9), was found within Farm 1 also indicates that an accumulation of such items occurred here, but not elsewhere in the settlement.

All in all, the archaeological material indicates that the inhabitants of Farm 1 had access to more resources of a higher quality and special character compared with the inhabitants of the remaining farms. This is reflected in the architecture, food stuffs and daily household. However, the distribution of traditional prestige objects such as coins, jewellery and the like shows that the boundaries were not impenetrable. Yet, the somewhat more fluid distribution of exactly these items might also indicate that the access to them went through the inhabitants of Farm 1, which still holds the highest number of high-quality items. After the items arrived at Farm 1, they were then distributed to the rest of the settlement, perhaps as gifts and payment. Such an interpretation would support the notion that access to resources was uneven and that their distribution was controlled by the inhabitants of Farm 1.



A



B

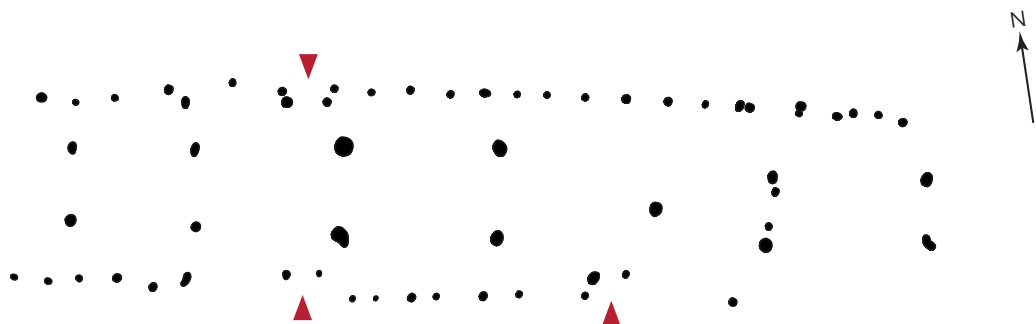

 10 m

Fig. 18.2. Photograph from the excavations of House 1, giving an impression of the size of the great longhouses at Farm 1. When the ground plan of House 1 (length: 38 m) is compared with that of House 50 (length: c. 34 m), which is the largest longhouse within the remaining settlement, the differences in the use of building materials become clear. Probable entrances are marked with triangles. Photo and illustration: Museum Southeast Denmark.

Nature of activities

Investigations of activities that took place at Strøby Toftegård concentrate specifically on the question of whether there are certain activities that were only carried out in selected areas of the settlement, and more generally on clarifying whether there were activities at Strøby Toftegård that do not seem to have occurred at other settlements in the region.

The analysis of the settlement has shown that there are some clear differences in its structure that reveal how Farm 1 stands out from the other farms (Beck & Kildetoft Schultz, Chapter 2). The combination of houses and features within Farm 1 is different from that of any of the other farm units. Whereas Farms 2–9 are characterised by the presence of deep pits and wells in the near vicinity of the houses, there are practically none such at Farm 1. Instead, there is a significant number of cooking pits, which are not found at the other farm units (Kildetoft Schultz, Chapter 4). While each of the deep pits and wells have a long and continuous period of use and appear to be associated with ordinary household and animal-husbandry activities, the cooking pits seem to have seen brief but recurrent use throughout the lifespan of the settlement. The precise function of the cooking pits remains unknown, but they are likely linked to cooking on a large scale, production or special rituals. That this is an activity that goes beyond the daily household keeping is very clear. In this way, differences in the types of features that are found clearly reflect that various activities took place at the individual farm units.

The nature and number of production activities at Strøby Toftegård as a whole emphasises its affiliation with the magnate sphere. Previous investigations of different types of crafts and the extent of their presence have shown that, while ordinary agrarian settlements on average feature 1.5 crafts, typically textile production and blacksmithing, magnate farms represent on average 3.3 crafts (Ulriksen 2018, 338–340). At Strøby Toftegård, traces of at least five different crafts have been found: textile production, blacksmithing, bronze casting and jewellery production, as well as the manufacture of glass beads, so, in general terms, this places the settlement at Strøby Toftegård higher in comparison with other settlements in the area. Internally at Strøby Toftegård, the differences also show if Farm 1 is compared with the rest of the settlement. Although textile production seems to have been done across the entire settlement, there is a concentration of loom weights at Farm 1, and the spindle whorls found here are light and suited for spinning fine threads. Doing this requires experience and skill, which suggests a degree of specialisation (Thomsen 2018, 318, 322). Traces of specialised crafts, such as glass-bead production, blacksmithing and bronze casting, are found practically only within the precincts of Farm 1, which underlines how the control of prestige objects and special knowledge and skills is focused here (Beck & Kildetoft Schultz, Chapter 2; Kildetoft Schultz, Chapter 8;

Sode, Chapter 10). That specialised workshops were linked to the central parts of magnate farms is also clear at, for instance, Järrestad (Söderberg, 2005, 226) and Gamla Uppsala (Ljungkvist, Lundahl & Frölund 2017).

Weaponry and equestrian gear are not particularly well represented at Strøby Toftegård (Baastrup, Chapter 7), but it is worth noting that such items are very rarely found at common agrarian settlements, and so the fact that they are present at all makes the settlement stand out. These finds indicate that warriors were present at the settlement – and, as a consequence, so were special activities linked to them (Fig. 18.3). That warriors left their mark on the activities that took place at Strøby Toftegård may be emphasised by the finds of horse bones on the site. Horses rarely make up more than 2–4% of the bones from domestic animals in settlements from the Late Germanic Iron Age and Viking Age (Kveiborg 2007, 2–3; Ulriksen 2018, 347–349), but at Strøby Toftegård, they represent 3% within Farm 1 and 6% in the remaining settlement (Gotfredsen, Chapter 6). The age distribution moreover shows that these animals were not intended for slaughter in the same way as cattle or pigs but were more likely riding animals. In the Late Iron Age, the horse takes on a specialised role as riding and draught animal for members of the magnate environment (*e.g.* Fulk, Bjork & Niles 2008, stanzas 1035–1039, 1044, 1399–1401; Snorrason 2003, ch. 23; Jørgensen 1990, 56–57; Pedersen 2014). Thus, there may not only have been warriors but also mounted warriors present in the settlement, which clearly speaks in favour of interpreting it as a magnate site. Considering the distribution of both objects and horse bones, it becomes clear that they are not exclusively associated with Farm 1 but are actually found mainly at the other farms. This reflects the complex relationship between the inhabitants of Farm 1 and those of the other farms.

Hunting, which is typically interpreted as a high-status activity, has also left traces at the site. However, the distribution of finds paints a bit of a muddled picture, with bones from game animals such as roe and red deer, as well as wild birds, being found mainly elsewhere in the settlement than Farm 1, while the majority of arrowheads used for hunting were found at Farm 1 (Gotfredsen, Chapter 6). It is thus not clear whether hunting was something that everyone in the settlement participated in, or whether it was reserved for the inhabitants of Farm 1, who then distributed the meat and useable parts of the animals to the rest of the settlement. That hunting did take place helps to stress the affiliation to the magnate environment more generally.

Within Farm 1, the traces of feasting and banquets are more pronounced than at the remaining farm units. This is evident from, for instance, the faunal material, which indicates a greater consumption of meat (Gotfredsen, Chapter 6), and the finds of sherds from drinking glasses, which may suggest drinking bouts and drinking ceremonies (Sode, Chapter 11). The halls within the great main houses at Farm 1 are also



Fig. 18.3. Photograph of parts of swords found at Strøby Toftegård. The fragment comes from a pommel (A, cat.no. 234), which is broadly dated to the Late Iron Age, while the hilt (B, cat.no. 235) is of a type known from the Late Germanic Iron Age. Photo: Jens Olsen, Museum Southeast Denmark.

bigger (as much as 140 m²) than elsewhere in the settlement, so in purely practical terms, they can house more visitors than the other longhouses (Beck, Chapter 3). Some of these feasts should probably be seen as directly connected to actual cultic actions and celebrations led by the magnate. The many cooking pits probably fit into this context, whether they were used for cooking, brewing or as sweat lodges. If we regard the enclosed area with special buildings, that exists at Farm 1 during the early part of its lifespan, as actual cult buildings (Beck & Kildetoft Schultz, Chapter 2), then this may be an indication that the cultic rituals here were of a different, possibly more formal, character compared with the rest of the settlement. The presence of *guldgubber* (in English: gold foil figures) in the archaeological material from Farm 1 also suggests that rituals and feasts of a more formal nature may have taken place here, since such are also found at other sites that appear to have had a function within the overall cult, such as Gudme, Sorte Muld and Uppåkra (Nielsen, Randsborg & Thrane 1994; Watt 2004; 2008). One interpretation of the *guldgubber* is that they functioned as a kind of invitation or 'entrance tickets' to the rituals, ceremonies and feasts that took place in the hall or the cult buildings and that



Fig. 18.4. Seven of the eight *guldgubber* that were found during the excavations at Strøby Toftegård. Seven of these were found in features and in the plough soil around House 2. Photo: Jens Olsen, Museum Southeast Denmark.

they were issued to participants other than the inhabitants of the settlement itself (Fig. 18.4) (Baastrup, Chapter 7). If this is the case, the *guldgubber* are an expression of how the inhabitants of Strøby Toftegård were part of a network concentrated around the social elite that encompassed Funen, the middle part of Sweden and the coast of Norway all the way north to the Lofoten Islands, where *guldgubber* have also been found (Lamm 2004).

There are also other expressions of unifying ritual actions within Farm 1, since the demolition and subsequent treatment of two of the great longhouses at Farm 1 (Houses 4 and 5) may have involved actions that did not only include the household but the whole settlement (Beck, Chapters 3 and 17). House 5 was deliberately burnt down, whereas House 4 was covered with water-rolled stones after it was demolished, like a kind of burial of the house. The burning will have required careful tending of the fire, while the water-rolled stones have been brought to the site from the coast, at least 2 km away. Both of these are actions that required a great deal of work from a great many people. House 5 and House 4 may, additionally, have been left as monuments within the settlement after their demolition and in that way have created a focal point for other communal rituals. There are no corresponding traces of communal rituals in the remaining part of the settlement. The rituals conducted there rather have the character of actions carried out within the individual household in the form of possible house offerings, offerings made in pits and possibly also less comprehensive burnings of houses about to be demolished (Beck & Kildetoft Schultz, Chapter 2; Beck, Chapter 3; Kildetoft Schultz, Chapter 8). With this in mind, it seems that ritual activity was present throughout the settlement, but the nature, extent and the number of people involved in the various rituals differed.

Summing up, the settlement at Strøby Toftegård was home to various activities that connected its inhabitants to the magnate environment in the form of specialised crafts, warrior activities, hunting and ritual acts. Within the settlement, the survey shows that Farm 1 stands out markedly from the rest of the settlement as a range of selected crafts were carried out only here. The nature of feasts and ritual activities at Farm 1 moreover had a certain unifying function that is not repeated at the other farm units. The differences within the settlement were thus not only physical but were also experienced in daily practices.

Controlling knowledge

The presence of certain objects and activities indirectly expresses the notion of access to – and thus also control of – knowledge within the individual farm unit. An example of knowledge that may have been widely shared is the use of beads – not least, the *right* use of beads. In the study of the bead material from the site, it is suggested that, apart from their decorative function, beads functioned as protective amulets and lucky charms (Sode, Chapter 10). In that case, the correct use of beads required special knowledge about the effects of the individual bead. That beads of glass, carnelian and rock crystal were found across the whole settlement may indicate that knowledge of the protective effects of beads was common. Crafts such as bead making and bronze casting, on the other hand, require specialised knowledge and techniques, and at Strøby Toftegård, these activities are evidenced only at Farm 1 (Beck & Kildetoft Schultz, Chapter 2; Sode, Chapter 10). This shows that the inhabitants of Farm 1 had access to special knowledge and perhaps even tried to control access to it by ensuring that these activities were only done in certain places. Finds of seeds from cabbage/mustard may likewise be an expression of specialised knowledge – in this case pertaining to how the plant was grown and used, as well as knowledge of its possible medicinal effects against everything from hair loss, drunkenness, stomach ache, warts and podagra (Nielsen 1976, 160–165). The seeds were found in a pit belonging to Farm 1, but nowhere else within the settlement, and this may be because only some people had the knowledge of how to grow and use these plants. Finds of cabbage/mustard seeds, incidentally, are unusual for the period and have previously only been recognised at Uppåkra, which is also part of the magnate environment in southern Scandinavia. In turn, the context emphasises how exclusive a find this is (Henriksen & Mortensen, Chapter 5).

Differences in the social networks that the inhabitants of the individual farm units were part of may also express differences in their access to knowledge. At the locality, a large number of imported goods were found, some 8% of the total number of finds (Fig. 18.5). The imported metal items point to contacts in the Frankish lands, the British Isles and the rest of Scandinavia (Baastup, Chapter 7). A few sherds

of Fresendorf pottery are thought to have been imported from Holstein (Kildetoft Schultz, Chapter 8), while pieces of soapstone and whetstones suggest contacts in Norway or Sweden (Kildetoft Schultz, Chapter 8). The Arabic coins that were found at Strøby Toftegård reveal a chronological profile that peaks in the latter half of the 8th century. At the same time, there is a relatively large number of Samanid coins from the 10th century, which points towards a network of contacts reaching east, including Gotland (Hårdh, Chapter 9). An English coin from the start of the 9th century also was found and a German coin that is probably from the end of the 10th or beginning of the 11th century. The glass beads likewise indicate a broad network of contacts as both whole beads and raw materials have a variety of origins, reaching into Western and Central Europe, the Mediterranean region, the Near East and India (Sode, Chapter 10; Gratuze, Chapter 13). Semiprecious stones for beads and jewellery may stem from as diverse places as Norway, Sweden, the Caucasus and India (Sode, Chapter 10). Vessel glass and window glass found at the site must represent imported goods, likely from the Frankish kingdom, since this type of glass was not produced in Scandinavia (Sode, Chapters 11 & 12). Although these many different places of origin do not necessarily represent a direct contact between those places and the inhabitants of Strøby Toftegård, the material nonetheless expresses the fact that the inhabitants were part of a complex social network that reached out into various parts of the world. Sharing of knowledge occurs when people meet, so a large network of contacts is followed by greater access to knowledge, inspiration and new ideas, compared with a smaller network. As the bulk of imported goods were found at Farm 1 (Beck & Kildetoft Schultz, Chapter 2), the suggestion is that the inhabitants of this farm had the largest number of contacts. This also makes it possible to argue that the inhabitants of the other parts of the settlement did not have the same access to knowledge as did the inhabitants of Farm 1.

Another way in which unequal access to knowledge can be expressed is to look at who is permitted to write and shape history. Farm 1 and Farm 2 are the only two farm units that existed throughout the entire lifespan of the settlement (Beck & Kildetoft Schultz, Chapter 2). In this way, the inhabitants of Farms 1 and 2 have a longer history on the site than the remaining farm units do, and this in itself may result in a certain legitimacy in terms of writing the history of the place. But there are also aspects of the development of the settlement, linked especially to Farm 1, that suggest a high degree of control over how the history is preserved and presented. When the settlement was first established, it was laid out in such a way that both a Neolithic burial mound and an urn burial from the Late Bronze Age may have been part of the settlement. This can be interpreted as a conscious use of older monuments and control over the history of the place in order to legitimise the establishment of

the settlement (Beck, Chapter 17). Likewise, the practice of creating monuments like the cairn that marked a demolished longhouse (House 4 at Farm 1) can be seen as an active way of shaping the history of the site.

Finally, on the basis of the above-mentioned traces of communal rituals and feasts at Farm 1, the magnate here may be regarded as having the responsibility for leading rituals and ceremonies linked to such events. This required access to a special kind of knowledge. For example, the magnate may have played a leading role in initiation rituals, when a young warrior was accepted into the group of warriors (Schjødt 2003, 364–371). The magnate's role is thus not only to be the regular and practical leader of the warriors in battle and outside it, but likely also to be the one who was able to establish the connection between the warrior and Óðinn by means of initiation rituals which, as Jens Peter Schjødt (2003, 370) says, should be seen as the preparatory steps for entering into Valhöll. So, although myths, legends, stories and rituals were probably commonly known and widespread, the authoritative version through songs and performances may well have been in the possession of the magnate, the leader of the cult (Nygaard 2018, 27). At feasts, ceremonies and rituals, the ideology and cosmology of society were repeated time and again in order to ensure a stable relationship between gods and humans; in brief, to

secure the foundations of society (Schjødt 2003, 111). This gave the magnate not only the responsibility of passing on mythical knowledge, but also the control of *how* it was passed on (Nygaard 2018).

All considered, it seems clear that the inhabitants of Farm 1 had access to a wider spread of knowledge than the inhabitants of the other farms. In some cases, it even seems that access to knowledge was deliberately controlled by the inhabitants of Farm 1, which may express an attempt to legitimise and retain the powerful position they may have had.

Taking part in political decisions

As with the access to knowledge, the inhabitants' participation in political decisions only shows indirectly through the archaeological material. But it is possible to decipher such aspects from the settlement's placement within the landscape and its internal structure (Fig. 18.6).

When the settlement was established in the mid-7th century, choosing this site was very likely a carefully considered decision. The settlement is located on a delimited plateau in a relatively open landscape with good access to suitable farmland, and it is also strategically placed in relation to the immediate resources that constitute the foundations of its existence. At the same time, the locality had a good view of the surrounding landscape and thus some ability to control access to the area (Kildetoft Schultz, Chapter 14). However, when the settlement was established, this happened within a landscape that had been lived in for many centuries prior to this. The excavations at Strøby Toftegård itself reveal older settlement traces (Beck, Kildetoft Schultz & Tornbjerg, Chapter 1), but also the near surroundings contain remnants of earlier settlement in the form of both stray finds and excavated settlement sites (see e.g. Christiansen & Roland 1996). The concrete, excavated traces of settlement are not (yet) very many, but the traces of an Early Iron Age field



Fig. 18.5. Photograph of selected import goods found at Strøby Toftegård. The photo shows two silver fittings from the 8th or 9th century that probably come from a hanging bowl whose origin lie in England or Ireland (A and B, cat.nos 148 and 149), a Continental strap-end fitting from the 9th century remade into an item of jewellery (C, cat.no. 152) and the foot of a claw beaker (D) from the 7th century (x375). Photo: Jens Olsen, Museum Southeast Denmark.



Fig. 18.6. Map of the historical ejerlavs within northern Stevns. The location of Strøby Toftegård is marked on the map. Illustration: Museum Southeast Denmark.

system in Magleby Skov suggest that the area was so densely populated that it was necessary to till new, more difficult terrain for growing crops (Nielsen 2010, 187). The analysis of the place names within the area, on the other hand, shows that place names from this period have not been preserved across a large area around Strøby Toftegård (Albris, Chapter 15). There are between 3.6 km and 5.6 km to the nearest place names from the Iron Age (Varpelev, Klippinge and Gjorslev), and if the extent of the *ejerlav* (an area owned and managed by the village in the 19th century) of these villages are applicable, an area of an estimated 36 km² within northern Stevns potentially belonged to Strøby Toftegård. In comparison, the historically attested *ejerlav* of Strøby, which is the very largest in Stevns, comprises 19 km². This means that the establishment of Strøby Toftegård would have entailed a significant reorganisation of the settlement pattern within the whole region (Albris, Chapter 15). It is no small thing to be able to restructure a sizeable area according to some overall plan around the mid-7th century. It is thus likely that the establishment of Strøby Toftegård was part of an overall political decision to redefine the power landscape of northern Stevns.

The fact that especially the inhabitants of Farm 1 made their mark within the landscape is clear from the placement of the main houses of this farm on the highest point of the plateau. Additionally, the oldest of these main houses (House 5) was placed on an artificial plateau that lifted the house even further (Beck & Kildetoft Schultz, Chapter 2). At least one of the later main houses (House 2) was possibly whitewashed, which would make it stand out very clearly from the surroundings (Beck, Chapters 3 & 17). This may be interpreted in such a way that the inhabitants of Farm 1 wanted not only to *look out over the landscape*, but also to *be seen within the landscape*, as a way of expressing their political power. This was a notion shared with magnates of the highest social level. Whitewashing wattle-and-daub walls is known from both Tissø (Bican 2010, 152–153; Henriksen & Holst 2014) and Lejre (Christensen 2015, 106).

Within the settlement, the access to Farm 1 was better controlled than was the case with the other farm units. Farm 1 is the only farm unit where traces of a physical delimitation onto the other farm units have been preserved (Beck & Kildetoft Schultz, Chapter 2). This is no defence palisade, but rather a fairly delicate demarcation of separate domains. It can be understood as more of a control of access in terms of social, behavioural patterns, rather than a physically exercised control. That social norms and practices were controlling factors is emphasised by the fact that access to the halls of the great longhouses, which were central and social gathering points for the settlement, was also better controlled than at the other farm units (Beck, Chapter 3). So, access to Farm 1 was not as open as it seems to have been at the other farm units. This may mean that not everyone

was invited to the events, and thus the political decisions, that belonged within Farm 1.

Summing up, the finds suggest that the inhabitants of Farm 1 were part of a greater political network that went beyond the settlement itself and they contributed to establishing and maintaining it. As both weapons (not counting arrowheads for hunting) and equestrian gear were found across the entire settlement (Beck & Kildetoft Schultz, Chapter 2), there are no signs that the magnate's power needed to be exercised by means of physical dominance. On the contrary, the scattered image of finds of weapons and equestrian gear, which is repeated in the distribution of jewellery and beads, may be seen as an indication that attractive goods and tasks were distributed and disseminated across the settlement, as previously argued. Gifts were likely necessary for the maintenance of the political networks and support in a changeable system such as the society of the Late Iron Age. The find distribution may thus be an expression of how the political endeavours that the inhabitants of Farm 1 represented were not only directed at the surrounding society but also at the inhabitants of the settlement itself.

Strøby Toftegård as a magnate settlement

The aim of the treatment and discussion above is to qualify the interpretation of Farm 1 at Strøby Toftegård as a magnate farm by discussing whether access to resources, activities, knowledge and political decisions was unevenly distributed between Farm 1 and the remaining settlement. Apart from traditional elements such as prestige objects and extraordinary architecture, arguments from the remaining material have also been included.

Taken together, the archaeological material suggests that Farm 1 should be regarded as a magnate farm, whose inhabitants had better access to high-quality resources of a greater variety than did the inhabitants of the other farms. The magnate was in charge of special activities that did not occur elsewhere in the settlement, such as hosting recurrent – likely ritual – feasts and banquets for large gatherings, controlling access to special knowledge, possessing prestige objects and partaking in political decisions. Surrounding the magnate farm was a settlement that was probably home to a large proportion of the magnate's retinue, but also a range of other people associated with the magnate, perhaps relatives or others who served the magnate and his or her interests. Judging by the find material, some of these people were possibly armed and mounted warriors. They were men of consequence, warriors who lived by the resources provided by the magnate and received gifts in connection with the social contract that their loyalty to the magnate entailed. This means that, although the archaeological material from Strøby Toftegård on the whole seems to set up a number of sharp divisions, reality was more likely that events and people ensured that the settlement was a close-knit unit.

Some aspects of these social transactions – such as the consumption of certain foods, the use of vessel glass, specialised crafts and important rituals – were tied to specific places, in particular the magnate's longhouse.

The magnate's role as both cult leader and leader of a group of warriors – as a minimum a personal retinue – mean that the magnate's role can be interpreted in light of the concept of 'religious ruler ideology', which is traditionally associated with forms of government headed by a king, chieftain or ruler (Sundqvist 2012). And it is thought-provoking to apply this concept in the case of Strøby Toftegård. According to Oluf Sundqvist (2012, 234–236), a leader can maintain the position by exercising roles central to religious rituals, by possessing and using special religious symbols (objects, buildings, places, landscapes) and by controlling religious/cultic institutions, such as the hall or a building linked specifically to cultic activities. A good number of these elements are part of the description of the archaeologically evidenced phenomena at Farm 1.

As Farm 1 exists in more or less unchanged form (albeit with some alterations) and location throughout the lifespan of the settlement, it is easy to envisage that the same family lived there through the whole period. This, however, cannot be attested directly in the archaeological material. Although the magnate's role appears to need continuous maintenance, there do not seem to be very many oscillations in terms of the role the magnate fulfils within the settlement and the local area before the settlement is abandoned shortly before AD 1000. When this is done, it probably happens in connection with significant changes in the societal organisation and power structures of the whole region (Ulriksen, Kildetoft Schultz & Mortensen 2020, 2–5, 16–17).

Strøby Toftegård within the hierarchy of power

How far and wide beyond Strøby Toftegård the magnate at Farm 1 was able to exercise power or decisive influence is hard to tell with any certainty, due to the nature of the sources. There are sizeable gaps in our knowledge about the Late Iron Age in Stevns and the villages west of Tryggevælde Å. Nonetheless, some elements within the knowledge presented here give some indication of where Strøby Toftegård was placed within the social and political hierarchy of power (Fig. 18.7).

In the eastern part of Zealand, Lejre constituted an unquestionable power seat of a calibre that gave this site the status of royal seat and cult centre in legends, myths and poems, both while it existed and in subsequent times (Christensen 2015, 15–29). The distance between Lejre and Strøby Toftegård is about 35 km as the crow flies, and about 38–40 km if you follow a possible course of Late Iron Age roads (Ulriksen, Kildetoft Schultz & Mortensen 2020, 6–8). This is just over the average distance between the earliest towns in Zealand from the 11th century (Kristensen & Poulsen 2016,



Fig. 18.7. Map of Zealand, including the sites mentioned in the text. Blue indicates magnate sites, white indicates ring fortresses and red indicates settlements. Strøby Toftegård (1), Lejre (2), Tissø (3), Borgring (4), Trelleborg (5), Ågård (6), Ølseagle (7), Boeslunde (8), Hårlev (9), Bøgelund (10). Illustration: Museum Southeast Denmark.

66–67). Lejre (Mysselhøjgård) is structured as a single farm that, through several of its phases during the 7th through to the early 11th centuries, was enclosed by means of a more or less sturdy fence. In the 7th through to the 8th or 9th century (phases 1–3), the farm covered an area of c. 2.6 ha. In each phase, the farm consisted of a very large main house with a hall, supplemented by smaller and larger longhouses and, during some phases, internal enclosures, a few small houses and pit houses (Christensen 2015, 59–93). The main house was – during its first three phases – erected on an artificial plateau, and areas comprising, respectively, 381 m², 497 m² and 661 m² were under roof. The roof-bearing postholes are as deep as 1.8 m and filled with stones but are typically 0.5–0.8 m deep. The wall ditches had rammed-down posts at the bottom and, apart from phase 1, there were external sloping support posts. Several of these elements are also found in connection with the main houses of Strøby Toftegård's Farm 1: an artificial plateau, large main houses with halls surrounded by smaller longhouses, external sloping support

posts and rammed-down posts in the wall ditches. But there are also clear differences between the two sites. Whereas each phase at Lejre comprises one farm, Strøby Toftegård is characterised by having several contemporary farms. How big an area Farm 1 covered is difficult to say for sure, but the most optimistic suggestion is 1.7 ha, that is, 65% of the enclosed area at Lejre. The main houses of Farm 1 do not occupy the same spot continuously but move with every new phase. There are no extremely deep, roof-bearing postholes (1.5 m+), and, with areas of 176 m² up to 252 m² under roof, the main houses were significantly smaller than the halls at Lejre (Figs 18.8 and 18.9). With this in mind, the longhouses at Strøby Toftegård did not have the same monumental character as did the halls at Lejre.

Also suggestive of Strøby Toftegård's place within the power hierarchy is its location in the landscape, which differs from those of well-known hall complexes such as Lejre and Tissø. Tissø is situated on a hill delimited by Lake Tissø ('lake of the god Týr'), Halleby Å and extensive meadowlands and wetlands, while Lejre is situated between Lejre Å (originally *Giofn*, 'the giving one', which closely resembles a name for the goddess Freyja) and an extensive kettle-hole area (Ulriksen, Kildetoft Schultz & Mortensen 2020, 3–4). Strøby Toftegård is situated in relation to neither stream nor lake, and northern Stevns does not have the same dramatic and cosmologically loaded topography and place names. On the other hand, it is clearly closer to the coast (Kildetoft Schultz, Chapter 14). The most striking part of the local landscape is the area between Strøby Toftegård and Køge Sønakke to the north-east, where the terrain alters between hills, minor water courses and wetlands stretching down to

the coast. The shortest distance between the magnate farm and this terrain is 0.8–1 km (see Fig. 18.9). If more striking topographical formations were to have been significant to the placement of Strøby Toftegård, the mentioned area would have provided some possibilities, even a higher and more prominent location. If Tryggevælde Å had played a part, this, too, would have provided possibilities for both a striking and high-up location quite near the river valley. Instead, the choice fell on a slight elevation in the landscape surrounded by good arable land and meadows, but no topographical elements indicative of centrality can be discerned today. Perhaps there was a road leading to a ford across Tryggevælde Å in the northernmost part of the resource area attached to Strøby Toftegård, and this may have gone by the settlement, but this cannot be established with any certainty. It is, however, worth noting that the four or five Late Iron Age fords across Tryggevælde Å that have been documented through archaeological excavations (Hansen & Nielsen 1979) are all located outside the area that Strøby Toftegård is likely to have had control of. Strøby Toftegård's situation in the landscape resembles that of Järrestad in Scania more than Tissø and Lejre. As already mentioned, Strøby Toftegård's topographical location does not carry the same cosmological connotations as that of Lejre and, despite elements linked to cult, the pile of burnt stones found at Strøby Toftegård (Beck, Chapter 17) cannot be compared to the very large cairn, Old Norse *høgrgr*, that was found at Lejre and which had been in use through several centuries (Christensen 2015, 173–179). Even so, the construction detail of the houses and the artificial plateau show that the connections with Lejre were close, and the rare, imported

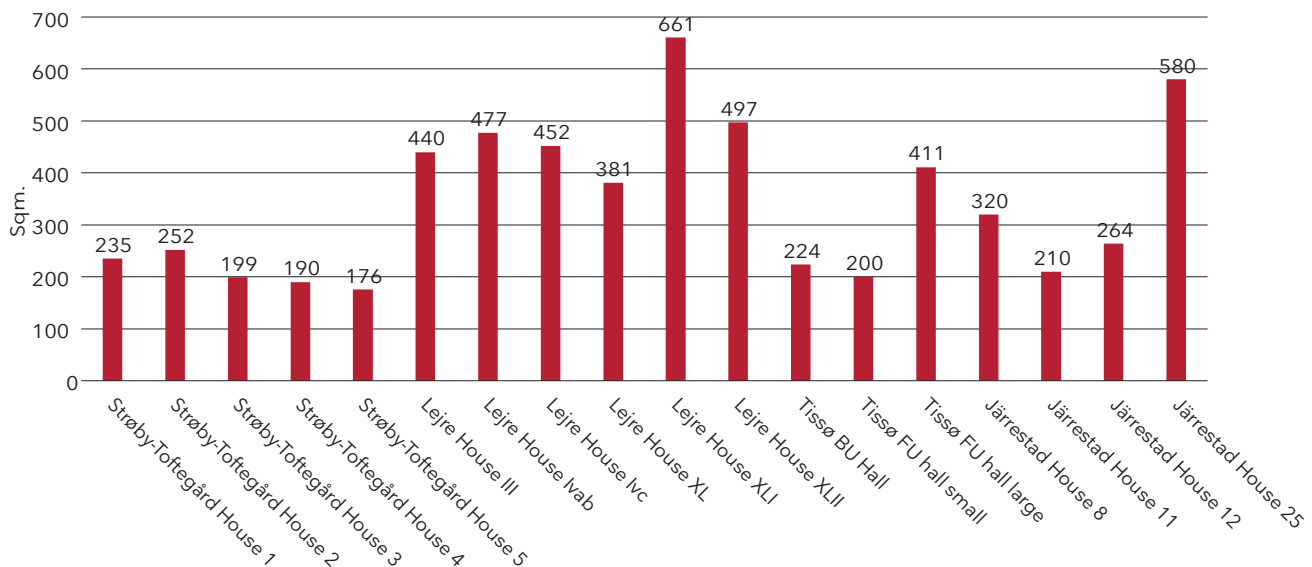


Fig. 18.8. Comparison of the sizes of main houses, measured in square metres, from the magnate sites Strøby Toftegård, Lejre (Mysselhøjgård), Tissø and Järrestad. Illustration: Museum Southeast Denmark.

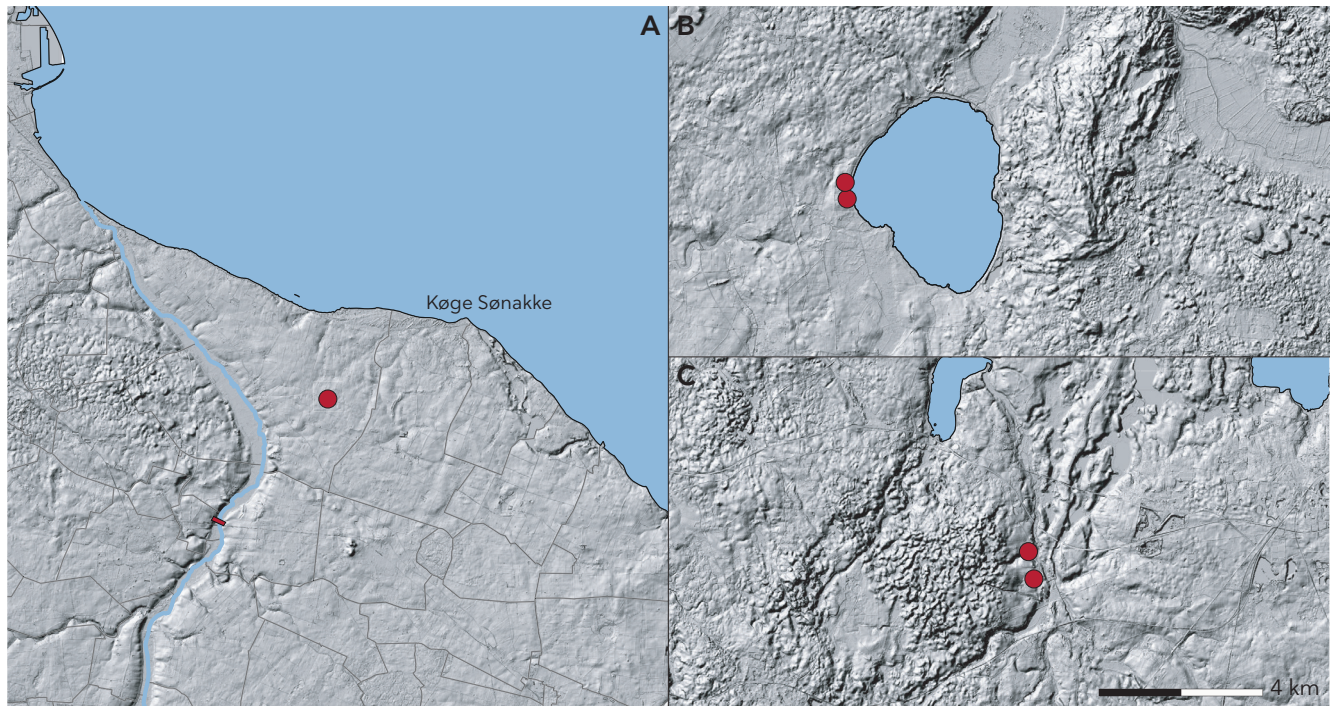


Fig. 18.9. Strøby Toftegård is situated in a flat, open landscape, which only becomes a bit more topographically dramatic towards Køge Sønakke. From the settlement, there is about 2 km to the northern coast and Tryggevælde Å, respectively. The distance to the nearest crossing of Tryggevælde Å (indicated on the map), however, is about 4 km. For comparison: Bulbrogård/Fugledegård at Lake Tissø (B) and Fredshøj/Mysselehøjgård, Lejre (C) in their landscape settings. Illustration: Museum Southeast Denmark.

Insular hanging bowl, the *guldgubber* and the many broken drinking glasses point in the direction of Strøby Toftegård having been the scene of important rituals and events of a nature intended to preserve societal structures and that these went beyond the settlement itself.

As a whole, Strøby Toftegård must be regarded as a site that indisputably includes structural elements that reveal an affiliation to the highest level of the magnate sphere, although it is equally clear that there are differences in terms of certain crucial parameters: the monumentality and the public cult (Table 18.1). In relation to Lejre, Tissø and Järrestad, which for a number of years now have been described as royal seats, chieftains' farms or earls' farms, it is clear that Strøby Toftegård lacks some of the decisive traits and thus does not belong in this group. Popularly speaking, we may assume that Strøby Toftegård occupied a position a step below that of the royal seat in Lejre, or perhaps two steps below if the hypothesis that Strøby Toftegård was subordinate to a magnate farm at Hårlev is, at some future point, proven (Kildetoft Schultz, Chapter 14).

The assumption regarding Strøby Toftegård's hierarchical place in relation to Lejre gains support when Strøby Toftegård is compared with the few excavated settlements from the Late Iron Age located within a radius of 10–20 km (see Fig. 18.7). The closest one is Bøgelund south of Varpelev. The site comprises main houses of a length of

about 30 m and with areas of 168 m² and 211 m² under roof, located within a settlement with other longhouses and smaller buildings and outhouses, which was in place during the Viking Age (Tornbjerg 1992, 73–76). The find material from the excavations consist primarily of pottery, with prestige objects largely absent. At Ølseagle in Køge Nord, two to three farms from the Late Germanic Iron Age and Early Viking Age were excavated, with the largest main houses being 30 and 40 m of length and with an estimated 305 m² and 335 m² under roof, surrounded by smaller additional buildings. The find material was meagre, and the site was interpreted as an ordinary agrarian settlement (Søndergaard 2016, 86–87). In relation to Strøby Toftegård, the most interesting nearby site is probably Ågård in Bjæverskov, about 10 km west of Køge. Here, part of a settlement was excavated, which comprises, *inter alia*, several longhouses from the Late Germanic Iron Age and Viking Age. Among these was a Trelleborg house from the 9th century with an extra, 110 cm deep, central post in the hall and 257 m² under its roof. In the wall ditches of the house were rammed-down posts, and on the southern side of the house was a separate, somewhat irregular enclosure (Kristensen 2017). Several houses on this site had wall ditches with rammed-down posts at the bottom, and there were also cases where the wall ditch was packed with burnt stones, both details that are repeated at Strøby Toftegård and Lejre. Among the houses

Table 18.1. Comparison of elements found at magnate sites/settlements from the Late Iron Age.

	<i>Strøby-Toftegård</i>	<i>Lejre-Mysselhøjgård</i>	<i>Tissø-Fugledegård</i>	<i>Järrestad</i>
Hall phases	5	6	4	4
Time frame	350 years	400 years	300 years	500 years
Deep postholes (150+ cm)	No	x	x	x
Continuity from hall to hall	No	x	x	x
Fence/palisade	No	x	x	No
One farm	No	x	x	x
Farm complex	x	No	No	No
Size of settlement (ha)	Max. 1.7	2.6	1.0–1.5–1.8	Unknown
Movement of settlement	No	x from Fredshøj	x from Bulbrogård	No
Pit houses outside fence/palisade	x	x	x	x
Cairn	No	x	x	x
Pits with offerings	x	No	x	No
Older monuments	x	x	No/Maybe	No/maybe
Artificial plateau	x	x	x	No

was also one which in terms of its structure finds a very close parallel in a longhouse from Lejre. The find material from postholes and pits on the site is not very extensive, but it includes a 10th-century iron spur, loom weights, pottery, soapstone and iron slag. Moreover, the plough soil yielded metal-detector finds from the Late Germanic Iron Age and Viking Age, including a bronze chape, a disc-shaped silver brooch and unusually well-made specimens of terminals shaped like animal heads for a plaited silver chain, a horse-shaped brooch and harness fittings. Although Ågård does include elements that are found also at Lejre and Strøby Toftegård, the site overall does not reach the same level as either of the other two.

Determining Strøby Toftegård's place within a hierarchical system of kings, magnates and free landowners on a local and regional level over a period of 350 years also runs into the partly unknowns of the equations that the detector areas (Kildetoft Schultz, Chapter 14) and the place names of the area constitute (Albris, Chapters 15 and 16). Laurine Albris argues among other things that Frøslev may have been a significant settlement in the Late Iron Age. The place-name suffix *-lev* was in use between AD 300 and 800, and the finds that have in recent years turned up in connection with the existing village do not contradict that date. Frøslev is located in southern Stevns, some 10 km from Strøby Toftegård and, according to Albris, it may be an estate owned by a magnate but entrusted to a loyal man from the uppermost level of the social hierarchy (Albris, Chapter 16). The high quality of some of the objects that were found, and the presence of weaponry, suggest that there was a magnate environment at this place in the Late Germanic Iron Age and the Viking Age. A fortified castle mound within the village shows that this remained a high-status site into the

Middle Ages. Within a radius of 4 km south and west of Frøslev, there are another four areas of metal-detector finds of a high quality that stem from the period spanning the Early Germanic Iron Age until the Middle Ages, among these weaponry from the Late Germanic Iron Age. Laurine Albris also points out Hellested as a locality that attracts attention simply because of its name. The first element refers to 'holy' and the suffix *-sted* (meaning 'place') was in use in the period between AD 400 and 900. An older find of a large and unusual gold ring from the Early Roman Iron Age clearly stands out among the metal objects, which in later years have been found around the existing village (Kildetoft Schultz, Chapter 14). The rest of the finds go back to the Late Roman Iron Age and they include finds dating from Early and Late Germanic Iron Age and the Viking Age. There are individual items of high quality that belong to the period around the middle of the first millennium. Overall, based on metal detecting surveys, a picture emerges of an area located centrally in southern Stevns with Frøslev as the richest site among several other surveyed sites with finds from the Roman Iron Age until the end of the Viking Age; all of which are located in or in the vicinity of place names ending in *-lev* (Albris, Chapter 16). Opposite this we have the area in northern Stevns with Strøby Toftegård as the decidedly most influential settlement, which to the west – in the direction of Strøby and Tryggevælde Å – is supplemented by minor sites mainly known through metal detecting surveys yielding inventory from the Late Iron Age. Of these, only Kastanjehøj has been partly excavated, albeit without establishing any clarity about how the site is to be understood in relation to Strøby Toftegård (Sørensen 2008, 271–272; Kildetoft Schultz, Chapter 14). There are thus several factors that speak in favour of the existence of

two significant and contemporary magnate environments at Stevns. Whether one was subordinate to the other, or whether they were equal in status cannot be determined on the basis of current knowledge.

From the time when Strøby Toftegård was established around AD 650 until it ceased to be in use some 350 years later, Denmark underwent a societal development that was in many ways true to traditions, customs and conventions, but which simultaneously represented a gradual economic, political and ideological change that brought the country closer to the situations in contemporary Western Europe. The Viking raids of the 9th century were crucial to this development, but the most decisive factor was that, by the end of the first millennium, the king of the Danes, and presumably the majority of his supporters, too, were counted amongst the guardians of Christendom. A potent symbol of the Christian royal power and the new times and ideology that this change of religion heralded were the geometrical monuments that Harald Bluetooth erected all across his kingdom from the late 960s until the early 980s (Ulriksen, Kildetoft Schultz & Mortensen 2020). Especially significant in relation to Strøby Toftegård is Borgring near Køge, which was established at an important ford across Køge Å. Here, routes running east–west across Zealand met with routes running north–south between the northern and southern parts of Zealand. The latter ones in all likelihood connected Strøby Toftegård with Lejre. Given its monumental nature and distinctive architecture, Borgring signalled the Christian king's vision, superiority and presence, even when he was not there in person. It is hardly any coincidence that, at the same time, Trelleborg was established at the other end of the east–west–going routes and, moreover, placed between Tissø to the north and Boeslunde in south-western Zealand. The extensive finds from metal-detector searches at the latter site suggest that this place enjoyed a status above average during the Late Iron Age (Ulriksen, Kildetoft Schultz & Mortensen 2020). Harald Bluetooth's monuments signal the momentous change in terms of faith, traditions and ideology, which meant that the old power structures in which the cult-related localities of Tissø, Lejre and Strøby Toftegård had occupied prominent places collapsed.

350 years is a long period of time – equivalent to the time that separates us today from the introduction of absolute monarchy in Denmark. Although it may look like it on the basis of fragmented archaeological sources, such a long-time span should not simply be regarded as static. The situation nonetheless is that, to a place like Strøby Toftegård, the maintenance of customs and conventions was decisive. The fate of the settlement shows how, when traditions were seriously challenged by Christian ideology and vision among the leading magnates of the land, the foundations for its continued existence crumbled. The century-old central cult places and royal residences at Tissø

and Lejre suffered the same fate, at the latest in the early 11th century. No settlement was retained at Tissø, while Lejre was reduced to having a place 'among the poorest villages in the vicinity of Roskilde' according to Sven Aggesen's (1842) description of it at the end of the 12th century. Since then, archaeology has been able to challenge this impression with the find of a limestone-built cellar from a smaller magnate farm (Christensen 2015, 276–278). On the part of Strøby Toftegård, the farms were abandoned and, instead, the future belonged to the church village of Strøby on the edge of Tryggevælde Ådal.

Concluding words

With this publication, the extensive archaeological material from the excavations of Strøby Toftegård has been presented and analysed. As is clear, the settlement has in no way been fully excavated, and there may still be considerable surprises lurking under the topsoil in those areas of the site that have not yet been investigated. This means there are no absolute answers to all the questions that may be asked in connection with such a rich locality. At the same time, the analyses of the material have led to new questions, which are not at all easy to answer without further archaeological study of Strøby Toftegård itself or its close and also more distant surroundings. It has, for example, proven crucial to establish whether Frøslev comprises a settlement with main houses of the same dimensions and with corresponding elements of construction as Strøby Toftegård, at thus be able to qualify the role of Frøslev in the Late Iron Age and to shed light on the relationship between these two localities.

Then there is also the question of the activities internally within the settlement. The concrete use of the pits and, not least, the many cooking pits is not very well understood, although it appears clear that they played an important role. Attaining a better understanding of their use would be decisive to a deeper understanding of the activities that defined the role of Farm 1 through 350 years.

The structure and function of the western part of the settlement is poorly understood. Here, a number of high-quality metal items, weights and coins were found that compare to the finds from Farm 1, and trial trenches prove that there was some activity here, but we have no clear picture of what really went on. There is likewise a very limited knowledge about how the burial mound of Toftehøj may have been incorporated into the settlement. In Lejre, an old mound is found in association with the hall areas at both Fredshøj and Mysselhøjgård, and there is hardly any doubt that there was a connection of some sort. Toftehøj lies about 100 m north of the coherent excavated areas, but a Viking Age pit near the mound may indicate that the settlement came all the way up here. Renewed investigations would be able to shed light on whether the mound, as representative of something old and original, may have been part of the magnate's strategy

in terms of lending legitimacy to his or her person and also position.

Strøby Toftegård's place within the landscape contains no immediately obvious topographical explanation. The suggested link to the sea – by means of the relatively short distance to the coast and the presence of a possible road, as well as a few place names near the coast that may indicate a landing place or a shipyard – may provide an explanation. But the uncertainty surrounding these aspects calls for fundamental investigations of the development of the coast and the named localities there. Likewise, an explanation for how to comprehend Kastanjehøj and the metal-detector finds from around Strøby is lacking. The question is whether the settlement was in fact spread out over a much greater area, as seems to be the case at Boeslunde.

Another obvious question to ask concerns the external relations across greater distances. Links to Lejre and Ågård in Bjæverskov have been proven. The situation within Stevns is becoming a more and more pressing question as metal-detector finds are continuously made and registered, and Frøslev and Hellested with their surrounding areas may contain a significant counterpart and/or opposition to Strøby Toftegård. The same goes for the settlements on the western side of Tryggevejle Å. Fords and bridges exist in abundance and testify to the fact that the river valley had a unifying rather than dividing effect during the Late Iron Age. Hårlev has been suggested as the place where the actual central locality within the region was situated. This, too, calls for further studies. In this way, the study of Strøby Toftegård has reached only a preliminary conclusion, and the last words therefore must be: To be continued...

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